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Research paper

Training Needs Analysis on Indonesian Construction Workers Competency in Malaysia

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Abstract

The growth of construction industry in Malaysia is stimulated by various mega infrastructure projects. Due to this, the competent construction workers become the catalyst in realizing the goals. Using mixed method approach in explanatory research, this study aimed to analyze the training needs based on 300 Indonesian construction workers' competency. Findings showed that there are significant differences between knowledge and skills possessed by the Indonesian workers, based on two types of training; theory and practical. However, the training on skills is considered critical as it is a need for the Indonesian workers to fulfil the job requirements in Malaysia.

Keywords: *Training Need Analysis; Competency; Construction Workers*

1 Introduction

Training is essential in improving workers' competency as it can polish their skills and develop their performance in work. According to Maimunah [1], trainings are activities that can help the workers to improve themselves through the process of learning, thus can help them to perform better in their work. In addition, trainings are able to change ones' attitude and gaining knowledge as well as skills.

Trainings provide opportunities for the workers to perform their work effectively. In producing productive workers, suitable trainings should be provided to them. According to Ibrahim and Soufani, [2] , the main focus in providing trainings is to increase the workers' competency and to fulfil the current needs of the organization. "Competency" is a combination of behavior, knowledge, and skills which are important in achieving the organization's goals [3], while "competent" is the level of one's ability to accomplish a task or activity related to his work. The trainings prepared for the workers are current needs oriented and focus on the effort to mainstream the workers according to their specialization. Therefore, a systematic plan needs to be drafted in managing the trainings to be effective.

The first step in managing the trainings is to identify the needs of trainings [4, 5]. An analysis of training needs should be conducted in identifying the appropriate trainings for the workers.

Training needs analysis [TNA] is a process to identify the workers who need trainings based on their work [2]. He adds that needs are similar to what the workers want to achieve in their career. The needs are the gap between what is being practiced in work and the organization's target.

The actual performance is what an employee performs in his work while the performance set by the employer is the target that should be achieved by the employee. If it is set 100 marks by the employer, therefore, the employee needs to obtain the 100 marks, but due to certain circumstances, the employee is able to achieve 80 marks only. Therefore, the gap exists between the performance by the employee and expectation by the employer in several aspects such as ability, knowledge, and skills. These gaps are seen as the needs that the employee should possess in enhancing his ability and capability. In addition, the employer should see these gaps as the employee's weaknesses in performing his job.

Training Needs Analysis [TNA] is a method in determining the needs to fulfil the gaps [6]. The purpose of this analysis is to identify the actual level of needs in relation to survey, target, interview, observation, secondary data and/or workshop. The gap between the current needs and the expected needs, could lead to problems in the work, as explained in the diagram below:

Training needs = expected needs – current needs

The training needs analysis based on competency is one of the processes that involves the manager and the staff in identifying the competencies [skills, knowledge, and ability] needed in performing their work. The advantage of this analysis is to give opportunities for the employees to develop their skills in trainings. Additionally, it can help the employees to identify what type of trainings they need in bridging the gap.

2. Literature Review

2.1. Training Needs Analysis [TNA]

Training needs analysis [TNA] is one of important steps in developing the training [7]. The implementation of this analysis leads the organization to identify what are the trainings needed, what should be thought or trained, and who should be trained. If the employees do not achieve the standard targeted, analysis should be conducted in identifying the possible solutions to the problems.

It is not easy to train the employees effectively. It is a share and not a cost [8]. Studies show the importance of trainings in developing the organization and improve the profit gained [9]. Huang [10] states that education and skills are the pre-requirements for the employees to perform well in their work.

Several factors need to be considered when human resource officers are planning or proposing any training [11]. These factors are important to determine the success of the training. According to Conger [12], one of the important factors is the process of the Training Needs Analysis [TNA] itself. An effective training needs concentration in many aspects including to identify the "needs" and the accurate process in conducting the training. This should be done systematically in producing good quality output and both parties [the employer and employee] could benefit the training and implement the knowledge well in their work[13-15].

According to Deesler [16], the training needs is a process by which it evaluates the needs of training in any organization. It is conducted by balancing the needs of the organization including the expectation towards the employee's skills and the employee's performance. The goal of training needs analysis is to help the organization to achieve its goal and the employee's aim in improving himself to perform well in work continuously. Through the training needs analysis [TNA], the organization is able to detect the weaknesses and strengths that the organization and the employees possess.

K.-H. Tan, et al. [17] highlights that the main objective of training needs analysis is to identify the problems exist in the organization and try to solve the problems, as well as to avoid negative impacts to both parties [employee and organization]. The top management role is to be the assessors in getting the information and data to support the training needs analysis activities. Training needs analysis is defined as a process in identifying any individual who needs training in his respective field [18]. The needs are the gap that exists between one's actual ability and employer expected ability in any organization. Some training needs analysts believe that the training needs is not only based on individual's performance but on opportunities in the future. One of the training phases is identification of training needs or training needs analysis [TNA] which is considered as the vital phase in ensuring the effectiveness of the whole training [19]. Therefore, the training needs analysis is a success if it is conducted correctly.

2.2. Process of Determining the Training Needs

Experts such as O'Connor et al. [5] and Ivancevich [20] highlight that the systematic process in conducting training needs analysis involving three types of analysis; namely organisational analysis, work analysis, and employee analysis. These analyses are to determine the appropriate training to be provided to the employees. The details of these three analyses are discussed in the following paragraphs.

2.2.1. Organization Needs Analysis

O'Connor et al. [5] and Ab.Aziz [21] agree that the organization assessment is able to explain the framework and its employees regarding the goals and culture of the organization.

Mathis & Jackson [22] believe that training can be identified through organizational analysis in determining the knowledge, skills and abilities needed. Internal and external factors need to be considered in the process of analysis. According to Stone et al. [23], the environmental factors such as the element of social, rules, technology and other factors need to be analyzed in determining the type of training. In addition, Ivancevich [20] states that organization needs analysis involves long and short term assessments such as the direction and development of the organization, as well as issues that can be resolved through trainings. Moreover, the organizational analysis involves the process which focuses on certain aspects and needs that to be included in organizational trainings [24]. Noe et. al. [25] mention that organizational analysis also involves the strategic direction of the organization; such as analyzing the mission, vision, and value of the organization, thus, determine the relevant trainings to support this.

Work needs analysis is referring to the process in determining and reporting information related to any tasks. This explains what are the job scopes of a certain task, including the skills, knowledge, ability and responsibility needed to accomplish the task. O'Connor et al. [5], believe that the work analysis is referring to knowledge, skills, and ability that are needed in accomplishing a task. The job scope is important as it explains the employee's responsibility and ability to perform the task. Mathis & Jackson [22] highlight that the differences in job scope and knowledge, skills and ability possessed lead the employee to determine the suitable training. Ab.Aziz [21] agree that the work analysis is able to identify the experts, skills, knowledge, and employees' abilities needed in completing the task given. Other than that, work analysis involves the process of identifying the content of training in producing quality output to be implemented by the employees [26]. Furthermore, Noe et. al. [25] explain that the analysis is a process of verifying the knowledge, skills, and attitude.

2.2.2.Employee Needs Analysis

This is the final analysis and it is also known as individual analysis. Noe et. al. [25] clarify that the analysis helps the organization to recognize individual who needs the training based on his performance due to lacking of knowledge, skills, or attitude. They also stressed that this process of analysis is not only concentrating on the needs of training but also focusing on the strategy and the development of the training which is able to help an individual to achieve the standard of organization target goal.

Daniels [27] believes that employees who are working in groups need different trainings as compared to those who are working individually. O'Connor et al. [5] discuss that the employees' analysis provides information needs by an employee in producing an effective work. Mathis & Jackson [22] and Ab.Aziz [21] states that individual analysis is focusing on individual performance. In addition, this is the point where individual can concentrate on his specific area by attending specific training.

Stone et al. [23], affirm that employee analysis is related to how an employee performs his work with his skills, knowledge, and ability. Additionally, Ivancevich [20] thinks that employee's aspiration needs to be considered in managing their training needs. Maimunah [1] deliberately highlights that those who need trainings are the ones with predicaments in their work.

All the three analyses are interrelated in designing the trainings. Organizational analysis gives a clear picture on the culture and the goals of the organization. However, in identifying the appropriate training to the employees, work and employees' analyses should be conducted, where the work analysis is concentrating on the knowledge, skills and attitude needed, while the employee analysis evaluates the employee's knowledge, skills and attitude. A comparative analysis on both work and employee analyses leads to the gap that the employee possesses from the aspects of knowledge, skills, and attitude.

2.2.3. The Rationale Behind the Implementation of Employee Needs Analysis

Goldstein & Ford [28] agree on the point that the training program development starts from the process of training needs analysis. Through the process, the basic questions such as what, where, when and who needs trainings can be obtained and answered. Maimunah [1] mentions that training needs analysis is the first step to answer the question on who would be the candidate to attend the trainings, types of training, and specification needs in the trainings. Chaudhary & Prasad [29] in their studies entitled Training for Development of Professional Education, highlight that in order to identify the appropriate training for the employees is to have the training needs analysis [TNA] and it should be conducted in a systematic way in establishing the proper training for the purpose of improving their competency. They add that, it is

essential to know the employees' level of skills, knowledge, and attitude and organizations expected competency. It could be to no avail if the organization is unable to identify the competency needed by the organization.

3. Methodology

The study employs mixed method approach where it was conducted using survey and integrating quantitative and qualitative research. Explanatory research was conducted in gathering the data from various methods as the attempt to understand the scenario. The weightage of this research was more towards quantitative and the qualitative method was used to support the quantitative data, as it could explain in detail on the significant or insignificant findings, or the differences on the quantitative data [30].

Sampling is a strategy when a researcher obtains information regarding a population via individuals from the respective population [31]. The purpose of this study was to obtain data and information regarding specification and explanation of labor sector in Malaysia and Indonesia. Other than that, it aims to see the differences on the labor force in Malaysia and Indonesia, as well as to evaluate the training needs analysis among the Indonesian employees.

300 labor force from Indonesia who have been working in Malaysia were selected using stratified sampling method from each districts in Johor. A survey was administered using a set of questionnaire as the instrument of this study. According to Saunders, et al. [2000], distributing questionnaire allows the process of data collection and analysis to be done easily. Items constructed based on literature and validated by experts. There are 24 items and they are divided to three parts: Part A is the demography information, followed by specification on the labor force as part B, and finally explanation on the construction and development sectors job scopes.

Data was collected and analyzed based on certain codes using Statistical Package for Social Science [SPSS] version 22. The data was analyzed using various methods such as descriptive and inferential statistics. Part C was measured using a five point Likert scale with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

4. Results and Findings

Table1: Demography Information

Category	Frequency	Percentage [%]
Gender		
Male	263	87.7
Female	37	12.3
Ethnic group		
Javanese	220	73.3
Sunda	2	0.7
Malay	29	9.7
Madura	7	2.3
Bugis	5	1.7
Batak	1	0.3
Batawi	3	1.0
others*	33	11.0
Religion		
Muslim	287	95.7
Buddhist	2	0.7
Christian	10	3.3
Not answering	1	0.3
Age		
<18 years	2	0.7
18-22 years	23	7.7
23-27 years	63	21.0
28-32 years	77	25.7
33-37 years	51	17.0
38-42 years	37	12.3
43-47 years	31	10.3
48 years and above	16	5.3
Income		
< RM 1000	74	24.7
RM 1001-1500	189	63.0
RM 1501-RM 2000	21	7.0
RM 2001-RM 2500	12	4.0
RM 2501-RM 3000	3	1.0
RM 3001-RM 3500	1	0.3
Type of Work		
Reinforcement	37	12.3
Bricks	87	29.0
Timber	93	31.0
Concrete	23	7.7
Plaster/Finishing/Tile	30	10.0
Infrastructure work [Drainage/Road/Roof/Bridge]	9	3.0
Others**	21	7.0
District		
Johor Bahru	248	82.7
Batu Pahat	24	8.0
Muar	6	2.0
Pontian	5	1.7
Kulai	12	4.0
Mersing	5	1.7
Education		
Never go to school	5	1.7
Primary school	96	32.0
Lower secondary school	123	41.0
Higher secondary school	75	25.0
S3	1	0.3

*other ethnic groups such as Flores, Flores NTT, Sasak/lLombok, and Seri Laku.

**other types of work such as preparing roof, plants, painting, landscape, and wiring

Table 1 show the demography of the respondents. 300 respondents participated in this study. 263 or 87.7% of the respondents were male and the remaining 37[12.3%] were female. Majority of them were Javanese with 220 respondents [73.3%], 29 or 9.7% Malay and less than 10% respondents from Sunda, Madura, Bugis, Batak, and Batawi. However, there were 11% or 33 respondents from Flores, Flores NTT, Sasak / Lombok, and Seri Laku ethnic groups. Majority of them were Muslim with 287 respondents, 10 respondents were Christian, and 2 Buddhist. One respondent did not answer this question. 77 respondents which contribute 25.7% were between 28 to 32 years old. 7% belonged to the age 23 to 27. They shared the same percentage for respondents aged 18 and below. More than half of the respondents [189 or 63.0%], earned about RM 1001 to RM1500, 74 respondents [24.7%] with RM1000 and below, and 21 respondents [7.0%] earned RM 1501 to RM2000. Only 1 respondent [0.3%] received RM3001 to RM3500.

Majority of the Indonesian labour involve in timber finishing. Thus, the respondents of this study were also working in timber finishing field. 93 of the 300 respondents worked in the field of "timber", followed by "bricks" with 87 respondents [29.0%]. 37 respondents [12.3%], contributed in "reinforcement", while 30 respondents in "plaster, finishing/tile", 23 in "concrete", and 9 respondents which contribute to 3% involved in infrastructure work [Drainage/Road/Roof/Bridge]. The remaining 21 respondents [7.0%] worked as labour in preparing roof, plants, painting, landscape, and wiring.

More than 80% of the respondents, which were 248 of them work in Johor Bahru, 24 of them [8.0%] in Batu Pahat, 12 respondents in Kulai, 6 [2.0%] in Muar, and 5 respondents [1.7%] in Pontian and Mersing respectively. Almost half of them, 123 respondents [41.0%] went to school until lower secondary school, and 96 respondents [32.0%] went to primary school only. Only 5 respondents [1.7%] did not go to school or received any formal education.

Findings show that the respondents of this study were from various background with different skills possessed, salary earned, and educational levels.

Table2: Paired Sample T Test according to Skills

[Paired Samples T Test]									
Paired knowledge and skills of Indonesian labour		Paired Differences					t	df	Sig. [2-tailed]
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	min_brick_p - min_brick_k	.10667	.93884	.05420	.00000	.21334	1.968	299	.050
Pair 2	min_reinfcmt_p - min_reinfcmt_k	.00533	1.01281	.05847	-.10974	.12041	.091	299	.927
Pair 4	min_concrete_p - min_concrete_k	.04467	.73408	.04238	-.03874	.12807	1.054	299	.293
Pair 5	min_finishing_p - min_finishing_k	.12533	1.03039	.05949	.00826	.24240	2.107	299	.036
Pair 6	min_others_p - min_others_k	-.04467	1.10311	.06369	-.17000	.08067	-.701	299	.484

Table 2 displays the findings of t-test on the differences between knowledge and skills by Indonesian labor. Based on the six areas or fields, 'reinforcement' and 'infrastructure work' have negative in value. This means that there were differences in knowledge and skills among the Indonesian workforce. Generally, it shows that timber skills and other skills have negative t value, where it signifies that there is a gap between knowledge and skills. However, there are few items in other skills which show the negative t value. Hence, the Indonesian workers' skills should be improved in order to minimize the gap.

Table3: Paired Sample T Test according to Items

Paired Samples T Test								
Paired knowledge and Skills of Indonesian labour	Paired Differences							
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. [2-tailed]
Work skills								
Bricks								
Modern machine to build the bricks	-.00667	1.57317	.09083	-.18541	.17207	-.073	299	.942
Reinforcement								
Reinforcement products	-.04333	1.43818	.08303	-.20674	.12007	-.522	299	.602
Using machines	-.13000	1.39028	.08027	-.28796	.02796	-1.620	299	.106
Bending or cutting reinforcement	-.02667	1.43974	.08312	-.19025	.13691	-.321	299	.749
Timber								
Types of timber	-.08000	1.31886	.07614	-.22985	.06985	-1.051	299	.294
Modern machine related to timber	-.16667	1.41618	.08176	-.32757	-.00576	-2.038	299	.042
Ways to cut the timber	-.03333	1.24796	.07205	-.17513	.10846	-.463	299	.644
Nail the timber correctly	-.04667	1.34307	.07754	-.19926	.10593	-.602	299	.548
Concrete								
Mixing concrete	-.02000	1.12419	.06491	-.14773	.10773	-.308	299	.758
Finishing the concrete	-.06333	1.31087	.07568	-.21227	.08561	-.837	299	.403
Finishing								
plastering / tiling	-.06020	1.46195	.08455	-.22659	.10618	-.712	298	.477
Others								
Build the road	-.00333	1.54638	.08928	-.17903	.17236	-.037	299	.970
Build the bridge	-.22333	1.76366	.10182	-.42372	-.02295	-2.193	299	.029
Build the roof	-.04667	1.65336	.09546	-.23452	.14119	-.489	299	.625
Use the modern machine	-.10667	1.57168	.09074	-.28524	.07191	-1.176	299	.241

Table 3 explains the different types of skills which contribute the negative t value. It proves that there was a gap between knowledge and skills among the Indonesian workers. In general, there is no gap in the skills related to bricks, however, the item on how to use the modern machine in assemble the bricks shows negative values. Thus, it shows that the Indonesian workers did know how to use the machine but did not expert in handling it. Three items in the reinforcement and timber skills show negative t value: skills in identifying the types of reinforcement and timber, skills in using the modern machine, and skills in cutting the timber and reinforcement.

For the skills related to concrete, the t value shows -0.308 and -0.837. This shows that there was a gap between the knowledge and skills among the Indonesian workers in this field. For the finishing skills, the plastering and tiling show negative t value while for the infrastructure work, overall show negative t value. Therefore, it can be concluded that there was a gap between the knowledge and skills in this field, and in building the road, bridge, roof and using the modern machines.

5. Conclusion

It can be concluded that there are three types of training needed by the Indonesian workers in order to guarantee their competency working in Malaysia. The three trainings are training in knowledge, the usage of machines, and skills. Training needs analysis shows that the Indonesian workers need knowledge trainings in types of reinforcement, timber and concrete. In addition, they also need trainings on how to use the machine effectively in the fields of reinforcement, timber, and bricks, even they know the machines. However, the most important trainings they need are skills trainings such as skills to bend the reinforcement and cut the timber, flatten the concrete, plastering and tiling, and infrastructure skills such as building the road, bridge, and roof in correct way.

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