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Research paper

The Analysis of Competency Based for Indonesian Construction Labourers

Mohd Fahmi Jaes[1]*, Khairunesa Isa[2], Abd Rahman Ahmad[3], Rosman Md. Yusoff[4],

[1]*Faculty Science, Technology and Human Development, Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, Johor*
[2]*Centre for General Studies and Co-Curricular, Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, JohoR*
[3]*Faculty Technology Management and Business, Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, Johor*
[4]*Centre for General Studies and Co-Curricular, Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, Johor*
**Corresponding author E-mail: fahmijaes@yahoo.com*

Abstract

Competency is considered a crucial factor for an organisation to compete in a challenging construction environment. From an organisation perspective, it becomes a competitive advantage for a company. For the labourers, it becomes an advantage to compete in getting a job and earning a higher salary. The objective of this study is to identify what are the job specifications of Indonesian construction labourers in terms of KSAo (knowledge, skills, abilities, and other characteristics) elements and to identify competency levels among 300 samples by using questionnaire as an instrument of research. Results showed that most of them are experienced, able to contribute by giving ideas, able to communicate in Malay, as well as competent. However, majority of them do not have a green card, having little to no education background and difficulties in communicating in certain languages. This reflects in their low salary.

Keywords: *Competency; Construction Workers; Performance*

1. Introduction

Competency is a way of how a person put into practice their knowledge in a specific context of jobs. From a scientific view, knowledge is defined as what a person learns through observation and experience, which can be translated into skills (1). Furthermore, learning new skills and knowledge are acquired.

There are different definitions on the concept of competency. Jacobs (2) defines competency as a required skill or ability in order to complete any managerial jobs successfully. Strebler (3) define competency as an essential task to define what sort of training are required. However, all definitions are similar and agreed on the three fundamental characteristics which are resources, context, and objective (4). According to Harzallah & Vernadat (4) , there are three main categories for resources; knowledge, know-how, and behaviours. Knowledge is something that is acquired through study or experience and kept as intellectual knowledge. Know-how involves personal experience and work place conditions. Lastly, behaviour are personal characters that make one to react under certain conditions.

Competency has been seen as an advantage as it can makes a job more dynamic, flexible and always changing the organisational environment (5). Furthermore, Agut, Grau (6) highlighted that competency mapping should be crucial analysed as the requirement of training which was to identify the gap between current performance and required performance (7). This gap is illustrated in the diagram below:

Required performance – Current performance = Gap competency

Fig. 1: Gap Analysis

However, a study conducted by Wright and Geroy (8) highlighted that further training is not a requirement when the gap between required performance and current performance have been identified. Nonetheless, there are some authors who affirm that when performance gap is widened because of skill deficiency, training is required (8-10).

2. Literature Review

2.1. Competency and Performance

Competency is a common practice in any organisations. In the United States of America, competency approach is vital in human resource management (11, 12). According to Gangani et. al., (13), competency encompasses of knowledge, skills, behaviour, personal characteristics, and motivation, which resulted in success when doing a particular job. Therefore, it can be said that the more competent employees an organization has, more productivity can be achieved.

According to Hoffmann (14), elements of the human performance model can be used to define competency as illustrated in Figure 2:

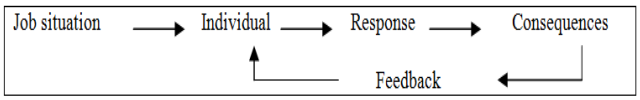


Fig. 2: A Situation-specific Model of Human Performance

Based on the above model, a job situation takes place when certain expected performance or action is required to achieve any given task. Competency is determined when we need to act and otherwise based on circumstances. In the meantime, individuals depend

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on characteristics such as knowledge, skills or attitudes to respond depending on the situation. At the stage of providing feedback, it depends on situational well-identified observations. In addition, the person needs the necessary underlying attributes to deliver the required actions. Lastly, consequences mean the standard desired. If a person does not have a clear direction, the person has no guide for what action needed to be done. By making consequences or outcomes in writing, a competency standard can be highlighted and set, which will be a standard for an individual to achieve.

2.3. KSAO Model

According to Lucia and Lepsinger (15) and Schmitt & Chan (16), the KSAO (knowledge, skills, abilities, and other characteristics) model is a widely accepted model used frequently in research. This model offers a difference among the most basic human attributes in terms of determining performance. This model is person-based and elaborates people's characteristics. In this research, we focus on job specifications and descriptions of an individual. In addition, although jobs are described in terms of KSAOs, to make the job successful, the researchers bring the characteristics of people to take a task to be done.

2.4. Indonesian Construction Labourers in Malaysia

A study by Furqan (17) found that 48% Indonesia construction labourers in Malaysia work as general assistants, 21% as carpenters, 13% as bar benders, 10% as plumbers, 4% as painters and plasterers. These percentages give us a view on job entailments of Indonesian construction labourers working in Malaysia. In addition, he found that in terms of educational background, they are from low level of education background. From a total of four million Indonesian construction labourers in Malaysia, 58.6% graduated *Sekolah Dasar* (SD) and below, 36.5% graduated *Sekolah Lanjutan Tingkat Pertama* (SLTP)/ *Sekolah Menengah Umum* (SMU), while 4.9% graduated with Diploma/S1. In term of skills, a majority of Indonesian construction labourers in Malaysia are considered as unskilled or semi-skilled. This is in accordance to results from a study by Abdul-Aziz (18) where he found that 50.1% of Indonesian labourers are unskilled compared to other countries like Philippines (below 10%).

3. Methodology/Materials

This research employed a mixed method by conducting interviews and questionnaire to collect data. However, this research is more quantitative than it is qualitative, and data collected qualitatively will support the quantitative data. According to Creswell and Plano Clark (19), this method focuses on collecting, analysing both quantitative and qualitative data in a single study to provide a better understanding of research problems rather than one approach. Besides that, this method is employed when initial results need to be further explained by experts.

According to Fraenkel et al. (20), samples are used by researchers to save time. For example, the time used to incorporate raw data into the system has been shortened by using sampling rather than using the population. The main purpose of this research is to obtain data on job specification and description restricted to Indonesian construction labourers in Malaysia. Besides, the objective was to find out job specifications and to find out whether there is a difference in the level of competency in the construction sector.

In this research, 300 Indonesian construction labourers who are working in Malaysia (Johor) have been selected using stratified sampling method. Data was collected using questionnaire that have been developed by interview, and validated by experts such as Construction Industry Development Board (CIDB). According to Sekaran & Bougie (21) questionnaire was used to allow a huge feedback from a large number of population. The questionnaire was divided into four sections; Section A (demography information), Section B (job specification), Section C (job description), and Section D (planning and skills needed). After data was collected, they were analysed using *Statistical Package for Social Science* (SPSS). Two statistics were used; descriptive and inferential statistics.

4. Results and Findings

Table 1: Demographic Information

Category	Frequency	Percentage (%)
Gender		
Male	263	87.7
Female	37	12.3
Ethnicity		
Javanese	220	73.3
Sundanese	2	0.7
Malay	29	9.7
Madurese	7	2.3
Buginese	5	1.7
Batak	1	0.3
Betawi	3	1.0
Others*	33	11.0
Religion		
Muslim	288	96
Buddhist	2	0.7
Christian	8	2.7
Hindu	2	0.7
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
Category	**Frequency**	**Percentage (%)**
38-41 years	37	12.3
43-47 years	31	10.3
48 years and above	16	5.3
Monthly Salary		
<RM 1000	74	24.7
RM 1001-RM 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 3501	1	0.3
Current Job		
Iron worker	37	12.3
Bricklayer	87	29.0
Carpenter	93	31.0
Concreter	23	7.7
Finishing/Plaster	30	10.0
Infrastructure	9	3.0
(Drain/Road/ Roof/ Bridge)	21	7.00
Others**	248	82.7
District	24	8.0
Johor Bahru	6	2.0
Batu Pahat	5	1.7
Muar	12	4.0
Pontian	5	1.7
Kulai		
Mersing		

*Flores, Flores NTT, Sasak/Lombok, and Seri Laku

**Roof, Plants, Painting, Landscape, Plant Vegetables, Wiring

Table 1 shows the demographic information for 300 samples of Indonesian construction labourers. From the survey, 87.7% (263 respondents) were male while 12.3% (37 respondents) were female. Under ethnicity, 73.3% were Javanese (220 respondents),

9.7% were Malay (29 respondents), 11% others (Flores, Flores NTT, Sasak/Lombok, and Seri Laku) , Madurese (2.3%), Buginese (1.7%), Betawi (1%) , Sundanese (0.7%), and Batak (0.3%). From the survey, 96% (288 respondents) were Muslims, 2.7% (8 respondents) were Christians, while 0.7% were (2 respondents) Buddhist and Hindu .

From the table, it is discovered that 25.7% of the respondents were between 28-32 years old, 21% were between 23-27 years old, 17% were between 33-37 years old, 12.3% were between 38-42 years old, 10.3% were between 43-47 years old, and the youngest were between 18-22 years old (7.7%). The older respondents age 48 years and above took 5.3%, and there were two respondents (0.7%). who were under 18 years old, where it is actually illegal for them to work,

Referring to their monthly salary, 63% (189 respondents) earned between RM 1001-RM 1500, 24.7% (74 respondents) earned below RM 1000, while 7% (21 respondents) earned between RM 1501 to RM 2000, 4% (12 respondents) earned between RM 2001to RM 2500, 1% (3 respondents) earned between RM 2501-RM 3000, and only 0.3% (1 respondent) earned the highest range monthly salary, around RM 3001 to RM 3500.

4.1. Job Specifications of a Construction Labourer

Table 2: Job Specifications of a Labourer (Knowledge)

Category	Frequency	Percentage (%)
Education		
None (never attended school)	5	1.7
Primary (Standard 1-6)	96	32
Lower Secondary (Form 1-3)	123	41
Upper Secondary (Form 4-5)	75	25
S3 (PhD)	1	0.3
Literacy Level (Read, Write, Calculate)		
Not able to write	20	6.7
Able to write	280	93.3
Not able to read	41	13.7
Able to read	259	86.3
Not able to calculate	23	7.7
Able to calculate	276	92
Category	**Frequency**	**Percentage (%)**
Communicative Ability		
Not able to communicate in Malay	10	3.3
Able to communicate in Malay	231	77
Expert in communicating in Malay	59	19.7
Not able to communicate in English	272	90.7
Able to communicate in English	25	8.3
Not able to communicate in Chinese	295	98.3
Able to communicate in Indonesian	7	2.3
Able to communicate in Javanese	9	3

Table 2 shows that 41% (123 respondents) have education until SMP (Form 1-3), while 32% (96 respondents) had primary education (Standard 1-6), 25% (75 respondent) had upper secondary education (Form 4-5), 1.7% (5 respondents) never attended school, and only 0.3% (1 respondent) have S3 (PhD). This result shows that majority of them have at least primary education, while only a small number of them never attended school. Overall, it can be concluded that even though most of respondents have primary and secondary education, no one has any tertiary education, except for one in level of S3 (PhD).

4.2. Work experience in Indonesia and Malaysia (Knowledge)

Table 3: Work Experience in Indonesia and Malaysia (Knowledge)

Work Experience in Indonesia			**Work Experience in Malaysia**		
Category	**Frequency**	**Percentage (%)**	**Category**	**Frequency**	**Percentage(%)**
Work experience in construction			**Work experience in construction**		
Yes	199	66.3	Yes	245	81.7
No	97	32.3	No	50	16.7
Work duration in construction			**Work duration in construction**		
<1 year	59	19.7	<1 year	52	17.3
1-3 years	94	31.3	1-3 years	68	22.7
4-6 years	55	18.3	4-6 years	65	21.7
7-9 years	33	11	7-9 years	19	6.3
10-12 years	11	3.7	10-12 years	23	7.7
16-18 years	1	0.3	13-15 years	9	3.0
19 years and above	2	0.7	16-18 years	9	3.0
			19 years and above	4	1.3
Types of construction work done			**Types of construction work done**		
Ironworker	43	14.3	Ironworker	21	7.0
Bricklayer	72	24.0	Bricklayer	54	18.0
Carpenter	63	21.0	Carpenter	71	23.7
Concreter	16	5.3	Concreter	27	9.0
Finishing/Plaster	40	13.3	Finishing/Plaster	44	14.7
Infrastructur (Drain/Road/ Roof/ Bridge)	16	5.3	Infrastructur (Drain/Road/ Roof/ Bridge)	16	5.3
Others**	6	2.0	Others**	18	6.0

*** Roof, Plants, Painting, Landscape, Plant Vegetables, Wiring*

Table 3 shows work experience among the 300 respondents. For work experience in Indonesia, 66.3% (199 respondents) have experience working in construction field in Indonesia, while 32.3% (97 respondents) did not have any experience. Compared to when in Malaysia, 81.7% (245 respondents) have work experience, while 16.7% (50 respondents) did not have any experience.

Besides that, in term of duration of work experience in Indonesia, 31.3% (94 respondents) have one to three years' experience, while 19.7% (59 respondents) have less than one year. Meanwhile, 18.3% (55 respondents) have four to six years, 3.7% (11 respondents) have 10 to 12 years, 0.7% (2 respondents) have more than 19 years of experience, and only 0.3% (1 respondent) has 16 to 18 years of experience. Comparing to when in Malaysia, 22.7% (68 respondents) have one to three years' experience, while 21.7% (65 respondents) have four to six years of experience. Respondents who have less than one year recorded a percentage of 17.3% (52 respondents), 7.7% (23 respondents) have 10 to 12 years of experience, 6.3% (19 respondents) have seven to nine years, those with 13 to15 years of experience and 16 to 18 years both recorded 3% (9 respondents), and only 1.3% (4 respondents) have 19 years or more experience. Based on the results, majority has between one to six years work experience.

Based on the table, there are seven different job categories given to respondents. The result shows that when in Indonesia, 24% (72 respondents) worked as a bricklayer, while 21% (63 respondents) as a carpenter, 14.3% (43 respondents) ironworker, 13.3% (40 respondents) finishing/plaster, concreter and infrastructure (drain/road/roof/bridge) both recorded 5.3% (16 respondents), and only 2% (6 respondents) worked other construction jobs (roofing, plants, painting, landscape, plant vegetables, wiring). However, when in Malaysia, 23.7% (71 respondents) worked as a carpenter, 18% (54 respondents) as a bricklayer, 14.7% (44 respondents) finishing/plaster, 9% (27 respondents) concreter, 7% (21 respondents) iron, 6% (18 respondents) worked other construction jobs (roofing, plants, painting, landscape, planting vegetables, wiring),

and only 5.3% (16 respondents) worked in infrastructure (drain/road/roof/bridge). Based on this comparison, there are two significant results that can be identified. First, when in Indonesia, most respondents work as bricklayers. However when they work in Malaysia, most work as carpenters. This means that carpenter has a higher demand in the construction industry in Johor. Second, when in Indonesia, a good percentage of the respondents worked as iron workers, but in Malaysia, only 7% of iron workers were detected. This means that it is not in high demand in the construction industry in Johor. However, all workers usually need to do all kinds of work in the construction field.

4.3. Job Specification of Labour (Skills)

Table 4: Job Specification of Labour (Skills)

Labour Skills	Frequency	Percentage (%)
Have skills in construction work		
Yes	237	79
No	52	17.3
Attended construction skills courses in Indonesia		
Yes	43	14.3
No	257	85.7
Attended construction skills courses in Malaysia		
Yes	81	27
No	219	73
Attended SICW (Safety Induction Course for Workers) from CIDB to get a green card		
Yes	133	44.3
No	167	55.7
Attended CIDB test to get SKK (Certificate of Competency Skills)		
Yes	154	51.3
No	145	48.3
Ability to work at 2 meters high		
Yes	230	76.7
No	70	23.3
Ability give creative ideas to complete a task		
Yes	192	64
No	108	36
Ability to interpret building structure plan		
Yes	143	47.7
No	157	52.3

Table 4 shows that job specification of labourers in terms of skills. Data shows that 79% (237 respondents) have skills in construction work, while 17.3% (52 respondents) do not have skills in this field. This shows that, although almost 20% did not have related skills, they are still needed by the industry as there is a high demand to hire them. This justification can also be used for when respondents were asked about attending construction skills courses in Indonesia. 85.7% (257 respondents) said no, while 14.3% (43 respondents) said yes. Meanwhile 73% (219 respondents) did not attend any construction skills courses in Malaysia, while 27% (81 respondents) have done so. There is an increase of 12.7% (38 respondents) in terms of attending construction skills courses when they come to Malaysia.

Meanwhile, in terms of owning a green card, 55.7% (167 respondents) do not have a green card, while 44.3% (133 respondents) have a green card. However, this does not mean that those who do not have a green card are illegal workers. They might be legal workers but have yet to obtain their green card. However, it is illegal for workers to do any construction work without having a green card. If found guilty, both the worker and the employer can be penalised up to RM 5,000 in accordance to the CIDB Act (Act 520).

Data also shows that in terms of attending the CIDB test to get SKK (Certificate of Competency Skills), 51.3% (154 respondents) have done so, while 48.3% (145 respondents) never did. From this information, it shows that, over half of the respondents are officially skilled workers. Meanwhile, 76.7% (230 respondents) are able to work at two meters high, while 23.3% (70 respondents) are not capable of doing so. This skill is required by subcontractors where construction work environment often involves high rise buildings.

Based on the survey, a total of 64% (192 respondents) are able to give creative ideas to accomplish a task, while 36% (108 respondents) are not capable of doing so. Meanwhile, 52.3% (157 respondents) are not able to interpret building structure plans, while 47.7% (143 respondents) said they are able to do so.

5. Conclusion

It can be concluded that in terms of experience, literacy skills (write, read, calculate), communicative ability, ability to give idea and working at two meters high, majority of the respondents are competent. However, a good number of them do not have a green card to do construction work. This is considered as illegal and both parties (the worker and employer) can be penalised. Meanwhile, nearly 25% of respondents earned a monthly salary below RM1,000 , which can be considered as low . This might be reflected from majority of the respondents' low education level and inability to communicate in English and Mandarin.

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