Interest and implementation of construction certification law in Indonesia

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Abstract. This research aims to improve the development of Indonesia’s construction workforce by analyzing workers knowledge regarding certification law and their implementation in real work, as well as the interests towards certification. The sampling technique used a purposive sampling strategy with research subjects of 100 Indonesian construction workers. Primary data was collected with questionnaire which was further analyzed with Mann-Whitney U test method. From the research, it is obtained that the total percentage of workers knowledge regarding certification law is only 47%. Only 35% of respondents know there is sanction if they are not certified, and 33% are aware of sanctions if they employ uncertified construction workers. Only 34.44% of uncertified workers know of the certification law, while for the certified workers, 62.66% of them know of the law. The implementation of certification law in real work is 52.68%. Although the number of certified workers are not many, there are high interest of the workers to have certificate which is 70.36%, and in extending certificate which is 77.27%. There is a significant difference between the average interest of uncertified workers and certified workers toward certification. People who have already got certificates are more interested in extending certificate ownership.

1. Introduction
Certification is an important tool for development and maintenance of a nation’s workforce [1]. Based on data obtained from the website of the Ministry of Public Works and Public Housing, the number of certified workers is 616 thousand people, consisting of 419 thousand skilled workers and 197 thousand skilled workers from the total construction workforce of 8.3 million people or only 7.4% [2].

Small number of certified construction workers in Indonesia causes many construction companies to employ workers who do not meet the required standards or the required skills and expertise. This is not only resulting in lower construction quality and financial loss, but it also might cause building and infrastructure failures that can endanger human lives.

In addition, when there is a building or infrastructure failure, many uncertified assessors only speculate and spread news that unsettles the public without the support of expertise and real data. The lack of certified expert assessors has caused the use of uncertified assessors, resulting the cause of the failure cannot be known.

Without knowing the causes of building and infrastructure failures, Indonesia’s construction cannot learn from experience and risk in repeating the same mistakes. This certainly hampers the progress of Indonesia's construction development.
2. Research Method

2.1. Sample

The sampling technique uses a purposive sampling strategy with research subjects of 100 Indonesian construction workers.

2.2. Method

Primary data collection methods and instruments used for this research were questionnaires that filled out voluntarily online by construction workers from February to March 2020. Questionnaires are based on Law number 2 of 2017 regarding construction services [3], as follows:

a. Use of certified construction workers in a construction work contract.
b. Expert assessors must have a work competency certificate.
c. Construction workers must have a work competency certificate.
d. Obligation to employ construction workers who have work competency certificates.
e. Construction workers who have a work competency certificate are entitled to an appropriate reward.
f. Sanctions if do not have work competency certificate.
g. Sanctions for hiring construction workers who do not have a work competency certificate.

2.3. Scale of measurement

In the questionnaire, some of the answers measurement used Guttman scale with score one for "Yes" answer and score zero for "No" answer [4]. Some were using Likert scale with a score 1 to 5 [5].

2.4. Validity and reliability test

Validity is measured by the value of $r$ using criteria:

- If $r > r$ table then the statement item is valid
- If $r < r$ table then the statement item is invalid
- Where $r$ table is seen from with $df = n-2$ and sig 5%

Reliability is measured by Cronbach's alpha coefficient, with coefficient values of 0.7 or more are considered reliable [6],[7],[8].

2.5. Mann-Whitney U test

The Mann-Whitney U test is a nonparametric test that is used to determining whether there are differences between two unrelated independent variables, if the $p$ value is less than or equal to the critical value of 0.05 indicates a significant difference [9],[10].

3. Results and discussion

3.1. Respondents profile

Data was obtained from 100 respondents who worked in the construction sector, consists of 62 types of professions. They are working in 59 companies from 24 cities in Indonesia. There are 44 respondents who have work competency certificates and 56 people who do not have work competency certificates.

Respondent's education level consisted of 8% high school, 7% Associate Degree, 67% Bachelor Degree, 16% Master Degree, 2% Doctoral Degree. Age of respondents is from 21 years to 63 years. The average age of respondents is 35.93 years. Respondents' experiences ranging from fresh graduate to those who have 40 years work experience. The average respondent's work experience is 11.82 years.

3.2. Knowledge regarding certification law

From data analysis result, the percentage of respondents' knowledge regarding certification law which previously described in points a to g is shown in Figure 1, Figure 2, and Figure 3.
Figure 1. Knowledge of all respondents

Figure 2. Knowledge of uncertified respondents

Figure 3. Knowledge of certified respondents
Based on data analysis, following are the results:

- All the respondents only know 47% of construction certification law.
- The majority of respondents are aware of the obligation to have a work competency certificate, both as a construction worker by 52% and an expert in building failure assessor by 51%. They also know the obligation of construction service providers to employ certified construction workers by 51% and use them in construction work contracts by 56%.
- Only 50% of all respondents are aware of the right to adequate compensation for workers who have work competency certificate.
- Majority of respondents are not aware of any sanctions. Only 35% of respondents are aware of sanctions if they do not have work competency certificate, and only 33% of respondents are aware of sanctions if they employ uncertified construction workers.
- The low percentage of respondents' knowledge regarding certification law, especially about sanctions, shows a lack of socialization.
- Majority of uncertified respondents are not aware of any certification law, they only know 19.60% to 42.90% of the certification law.
- Majority of certified respondents are aware of any certification law, they know 50% to 72.70% of the law.
- Uncertified respondents only know 34.44% of certification law, which is lower than certified respondents who know 62.66% of certification law.

3.3. Implementation certification law
To find out the implementation of certification in the real work, respondents were asked to rate on a scale of 1 to 5 for implementation of items a to g, the results is in Figure 4.

![Implementation of certification law](image)

From the results of the respondents' assessment it is obtained that the implementation of certification law in real work is 47.40% to 57.80%. From total evaluation of respondents obtained the implementation of certification in real work is 52.62%.

3.4. Interest toward certification
Uncertified respondents were asked about their interest in having work competency certificate. Meanwhile certified respondents were asked about their interest in extending work competency
certificate ownership. From the analysis results of respondents' data, it is obtained that the interest to have work competency certificate is 70.36% and to extend work competency certificate is 77.27% as shown in Figure 5.

![Interest toward certification](chart.png)

**Figure 5.** Interest toward certification

To find out whether there is a significant difference between the average interest of respondents who do not have certificate and those who already have certificate, a Mann-Whitney test is performed. From the test results obtained by SPSS, p value is 0.049 < critical value 0.05 which means that there is a significant difference. So based on the results of the analysis, there is a significant difference between the average interest of people who have certificates and people who do not have certificates. People who have already got certificates are more interested in extending certificate ownership.

4. Conclusions
Regarding the interest of construction workers:
- There are high interest of the workers to have certification which is 70.36%, and in extending certificate which is 77.27%.
- There is a significant difference between the average interest of uncertified workers and certified workers toward certification. People who have already got certificates are more interested in extending certificate ownership.

Regarding the implementation of construction certification law:
- From the respondent data, the implementatian of certification law in Indonesia is 52.68%.
- The total percentage of workers knowledge regarding certification law is only 47%.
- Only 35% of respondents know there is sanction if they are not certified, and 33% are aware of sanctions if they employ uncertified construction workers.
- Only 34.44% of uncertified workers know of the certification law, while for the certified workers, 62.66% of them know of the law.

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