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# Factors Affecting TKBM Performance at Bitung Port, North Sulawesi: Competency and Training

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**Abstract:** The loading and unloading process at the port determines the smooth running of the economy, and this cannot be separated from the role of the Loading and Unloading Workers (TKBM) at the port. In its development, TKBM in ports has become very important because it determines the smoothness of the loading and unloading process, so it requires loading and unloading workers with expertise and reliability in using tools during loading and unloading and applying K3 principles. Bitung Port is one of the important factors that drive economic growth and development in North Sulawesi. At Bitung Port, it was confirmed that more than 1000 TKBM were carrying out loading and unloading activities. This research aims to determine the effect of competency and training on TKBM performance at Bitung Port, North Sulawesi. The research method uses quantitative research with data collected through questionnaires. The research results show that TKBM competency and training simultaneously influence TKBM performance at Bitung Port.

**Keyword:** competency, training, loading and unloading workforce, port

## INTRODUCTION

Loading and unloading ports have an important meaning in driving the economy through the distribution of goods and are a typical example of service activities as a representation of the service industry with a focus on the maritime goods delivery service industry. The process of regulating loading and unloading at the port is one of the factors that determines the smooth running of the economy, and this cannot be separated from the role of the Stevedoring and Unloading Workers (TKBM) at the port (Setyawati et al., 2022). The existence of TKBM to assist with loading and unloading makes a big contribution to smooth loading and unloading. In its development, TKBM's position in ports has become very important, this can be seen from the increasing number of national ships that are starting to crowd ports in Indonesia, so there is a dire need for loading and unloading workers who have expertise and reliability in using tools when loading and unloading. At Bitung Port, it is

confirmed that there are more than 1000 TKBM carrying out loading and unloading activities (Source: Bitung TKBM Cooperative, 2024). The increasing number of activities at Bitung Port should be followed by an increase in the competency of the loading and unloading workforce at Bitung Port. From interviews conducted with the Secretary of the TKBM Cooperative in September 2024, of the approximately 1000 TKBM under the auspices of the Cooperative, only around 360 TKBM were certified as competent and underwent training, so researchers see that this is still minimal overall in terms of work competency.

In his research, Winoto Hadi (2016) found that 7 out of 10 Tanjung Priok TKBM members did not have experience taking TKBM training regarding handling loading and unloading. This affects the knowledge and skills of TKBM members in the process of loading and unloading general cargo and containers.

Bitung Port is a port located on Jalan D.S Sumolang, Maesa, Bitung City, North Sulawesi. It is the largest port in North Sulawesi which is visited by passenger ships between major cities in Indonesia. The existence of Bitung Port is one of the important factors that drives economic growth and development in North Sulawesi, apart from plantation, agricultural and fishing activities. Quoted from KSOP Bitung data, currently Bitung Port, North Sulawesi is recorded as having six piers. The six piers are Ocean Pier, Nusantara Pier, IKD Pier (IV), Local Pier, LCT Pier, and TPB Pier. The existence of TKBM to assist with loading and unloading makes a big contribution to smooth loading and unloading. In its development, TKBM's position in ports has become very important, this can be seen from the increasing number of national ships that are starting to crowd ports in Indonesia, so there is a dire need for loading and unloading workers who have expertise and reliability in using tools when loading and unloading.

Edison, Anwar and Komariyah (2018) stated that the competency dimension is based on behavior which refers to applicable legislation, namely knowledge, skills and attitudes. According to the Indonesian National Work Competency Standards based on the Decree of the Minister of Manpower of the Republic of Indonesia Number 298 of 2020 concerning Determination of Indonesian National Work Competency Standards Transport and Warehousing Categories Main Classes Warehousing and Transport Support Activities in Work Positions for Loading and Unloading Workers (TKBM) General Goods Cargo), the competency package for TKBM is as follows.

**Table 1. TKBM Competencies According to SKKNI**

| NO | UNIT CODE | COMPETENCY UNIT TITLE |
|---|---|---|
| 1 | H.52BMP01.001.1 | Implementing Occupational Safety and Health and Environmental (K3L) provisions in the Workplace |
| 2 | H.52BMP01.002.1 | Implementing Communication in the Workplace |
| 3 | H.52BMP01.003.1 | Carrying out Stevedoring Activities |
| 4 | H.52BMP01.004.1 | Carrying out Cargodoring Activities |
| 5 | H.52BMP01.005.1 | Carry out Receiving/Delivery Activities |

Nawawi (2015) provides the definition "Training is a program to improve the ability to carry out work individually, in groups and/or based on position level in an organization or company". According to Mangkunegara (2013) the things used to measure the effectiveness of training are as follows: Type of training, training objectives, training materials, methods used, participant qualifications, trainer qualifications, and training time.

Furthermore, according to Afandi (2018) performance is the work result that can be achieved by a person or group of people in a company under their respective authority and responsibilities to achieve organizational goals illegally, without breaking the law and not conflicting with morals and ethics. Factors that influence performance achievement are ability factors and motivation factors. Employee performance indicators include: quantity of

work results, quality of work results, efficiency in carrying out tasks, work discipline, initiative, thoroughness, leadership, honesty and creativity.

The hypotheses in the research are, H1: It is suspected that there is an influence of competency and training on TKBM performance in Bitung City, H2: It is suspected that there is a positive influence of competency on TKBM performance in Bitung City, and H3: It is suspected that there is a positive influence of training on TKBM performance in Bitung City .

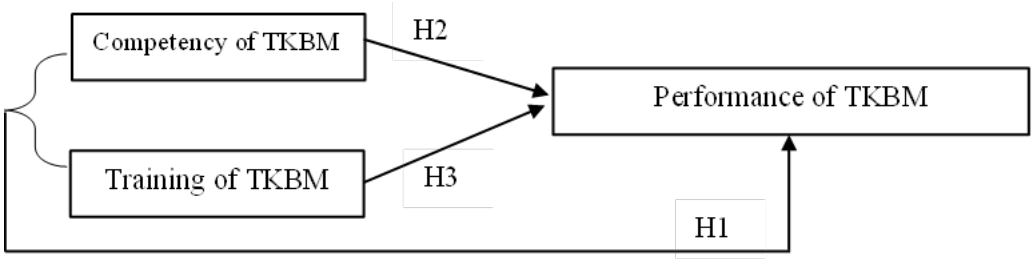


**Figure 1. Research Hypothesis**

## METHOD

The research method used in this research is quantitative. This research aims to examine the influence of competency and training on the performance of Stevedoring and Unloading Workers at Bitung Port, North Sulawesi. This begins by reviewing existing theories and knowledge so that the causes of the problem emerge. The type of research used is survey research. Survey research is used to obtain data from certain natural (not artificial) places, where researchers carry out treatments in collecting data, for example by distributing questionnaires or tests and so on (Sugiyono, 2018; Susanto et al., 2024). The research was carried out at Bitung Harbor, North Sulawesi and the research period was from June to September 2024.

In this research, the research variables consist of independent variables and dependent variables. There are 2 (two) independent variables, namely X1 is TKBM competency, and X2 is TKBM Training. Meanwhile, the dependent variable, namely Y, is TKBM Performance. To collect research data, the author used a questionnaire/questionnaire method with a Likert scale which had been tested for validity and reliability, and an observation method. The respondents in this study were 64 TKBM members at the TKBM Sejahtera Cooperative, Bitung City, obtained using the Slovin method (Ridwan, 2015) .

## RESULT AND DISCUSSION

### Instrument Validity and Reliability Test

Based on the results of the validity test using product-moment correlation, the r-table value is 0.2461. The following is a table of instrument validity test results for all variables using SPSS 23.

**Table 2. Instrument Validity Test Results**

| Variable | Indicator | Correlation | | |
|---|---|---|---|---|
| | | r count | r tale | Status |
| Competence (X1) | X1.1 | 0,522 | 0,2461 | Valid |
| | X1.2 | 0,672 | 0,2461 | Valid |
| | X1.3 | 0,864 | 0,2461 | Valid |
| | X1.4 | 0,788 | 0,2461 | Valid |
| | X1.5 | 0,733 | 0,2461 | Valid |
| | X1.6 | 0,662 | 0,2461 | Valid |
| | X1.7 | 0,769 | 0,2461 | Valid |
| Training | X2.1 | 0,850 | 0,2461 | Valid |

| | | | | |
|---|---|---|---|---|
| (X2) | X2.2 | 0,906 | 0,2461 | Valid |
| | X2.3 | 0,921 | 0,2461 | Valid |
| | X2.4 | 0,936 | 0,2461 | Valid |
| | X2.5 | 0,946 | 0,2461 | Valid |
| | X2.6 | 0,297 | 0,2461 | Valid |
| | X2.7 | 0,892 | 0,2461 | Valid |
| Performance (Y) | Y1 | 0,883 | 0,2461 | Valid |
| | Y2 | 0,858 | 0,2461 | Valid |
| | Y3 | 0,858 | 0,2461 | Valid |
| | Y4 | 0,724 | 0,2461 | Valid |
| | Y5 | 0,798 | 0,2461 | Valid |
| | Y6 | 0,857 | 0,2461 | Valid |
| | Y7 | 0,831 | 0,2461 | Valid |
| | Y8 | 0,851 | 0,2461 | Valid |
| | Y9 | 0,759 | 0,2461 | Valid |

The results of the validity test using SPSS 23 in the table above show that the Pearson Correlation for each statement item has a value greater than the r table for 64 samples, namely 0.2461. So it can be concluded that all instrument items on the three variables are valid.

Next, the following are the results of the reliability test.

**Table 3. Instrument Reliability Test Results**

| No. | Variable | *Cronbach Alpha* | Status |
|---|---|---|---|
| 1. | Competence (X1) | 0,832 | Reliable |
| 2. | Training (X2) | 0,931 | Reliable |
| 3. | Performance (Y) | 0,935 | Reliable |

The results of the reliability test using SPSS 23 above show that the Cronbach Alpha value in the table above is more than the r table value, namely 0.2461 and greater than 0.6. So it can be concluded that every statement from the instrument on each variable is reliable.

## Hypothesis Testing

Based on the results of multiple regression tests, the regression equation obtained in this study is as follows:

$$Y = 24.717 + 0.470\ X1 + 0.013\ X2 + e$$

The constant value of 24.717 indicates that if the independent variable value is considered 0, then the TKBM Performance (Y) is 24.717 units.

The regression coefficient value X1 is 0.470, indicating that there is a positive influence of TKBM competence on TKBM performance. If the TKBM competency variable score increases by one unit, TKBM performance will increase by 0.470 units assuming the other variables are constant. On the other hand, if the score decreases by one unit, TKBM performance will decrease by 0.470. This means that the better the TKBM competency, the better the TKBM performance.

The X2 regression coefficient value of 0.013 indicates that there is a positive influence of training on TKBM performance. If the training variable score increases by one unit, the image of North Sulawesi Polytechnic will increase by 0.013 units assuming the other variables are constant. On the other hand, if the score decreases by one unit, TKBM performance will decrease by 0.013. This means that the better the training, the better the TKBM performance.

**Table 4. Partial t test result**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 24.717 | 6.206 | | 3.983 | .000 |
| | Kompetensi | .470 | .178 | .323 | 2.644 | .010 |
| | Pelatihan | .013 | .080 | .020 | .160 | .873 |

a. Dependent Variable: Kinerja

Source: SPSS 23 data processing results

The results of the t test show that TKBM competency (X1) has a significant level of p-value = 0.000 < 0.05, so Ha is accepted and H0 is rejected. This means that the hypothesis (H2) which states that there is a positive and significant influence of TKBM competency on TKBM performance can be accepted or proven.

The t test results show that training (X2) has a significant level of p-value = 0.010 < 0.05, so Ha is accepted and H0 is rejected. This means that the hypothesis (H3) which states that there is a positive and significant influence of training on TKBM performance can be accepted or proven.

Based on the Multiple Regression Test Results, the F Test Results, simultaneous F test analysis can be shown in the following table.

**Table 5. Multiple Regression Test Results F Test**

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 163.438 | 2 | 81.719 | 3.510 | .036[b] |
| | Residual | 1420.312 | 61 | 23.284 | | |
| | Total | 1583.750 | 63 | | | |

a. Dependent Variable: Kinerja

b. Predictors: (Constant), Pelatihan, Kompetensi

Source: SPSS 23 data processing results

The results of the analysis obtained an F test with a significant level of p-value = 0.036 < 0.05, so Ha was accepted and H0 was rejected. This means that H1, namely that there is an influence of TKBM competency and training on TKBM performance, can be accepted or proven.

Furthermore, the results of the multiple regression test for the correlation coefficient (R) and the coefficient of determination (R2), the values of the correlation coefficient and coefficient of determination in this research model can be seen in the following table:

**Table 6. Multiple Regression Test Correlation Coefficient (R) and Determination Coefficient (R2)**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .321[a] | .813 | .074 | 4.825 |

a. Predictors: (Constant), Pelatihan, Kompetensi

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 24.717 | 6.206 | | 3.983 | .000 |
| | Kompetensi | .470 | .178 | .323 | 2.644 | .010 |
| | Pelatihan | .013 | .080 | .020 | .160 | .873 |

a. Dependent Variable: Kinerja

From the table above, it can be seen that the correlation coefficient (R) value produced in model 1 is 0.321. This shows that TKBM competency and training simultaneously have a strong relationship. The coefficient of determination (R2) value produced in model 1 is 0.103. This shows that the contribution of the independent variables, namely TKBM competency (X1) and training (X2) to the dependent variable, namely TKBM performance, is 81.3% and the rest is influenced by other variables not examined in this research.

**Discussion**

Based on the results of data processing, it shows that TKBM competency and training simultaneously influence TKBM performance. This means that TKBM competency and training are needed to improve TKBM performance. Competent TKBMs understand the duties and responsibilities that must be carried out in carrying out loading and unloading. Likewise, the performance and understanding and working knowledge of TKBM who have attended training will be different from TKBM who have never attended training. It is not enough to just rely on experience, but training encourages strong motivation from TKBM to carry out their duties.

Based on data obtained from respondents' answers to the questionnaire, almost all respondents in the Bitung City TKBM "Sejahtera" cooperative had good perceptions or responses regarding competence. The research results show that competence has a positive and significant effect on TKBM performance at Bitung Port. This can be interpreted that TKBM who have competence as proven by a competency certificate have a better and more structured understanding of the implementation of unloading at the port.

Based on the results of the regression coefficient test that has been carried out, it show that training has a positive and significant effect on TKBM performance. This is because TKBM members who have attended training can feel the impact during loading and unloading. After all, they have been equipped with TKBM skills. Because of this, a TKBM needs to undergo training to improve their performance in carrying out loading and unloading activities.

## CONCLUSION

From the research results described previously, it can be concluded as follows:

1. TKBM competency and training simultaneously influence TKBM performance at Bitung Port.
2. TKBM competency has a positive and significant effect on TKBM performance. Increasing TKBM competency can be proven by having a competency certificate through the implementation of the TKBM competency test.
3. TKBM training has a positive and significant effect on TKBM performance.

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