THE EFFECT OF INDIVIDUAL CHARACTERISTICS AND ABILITY, WORK ENVIRONMENT AND MOTIVATION, AND LEADERSHIP STYLE ON EMPLOYEE PERFORMANCE CONSTRUCTION

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Abstract: Companies often encounter several problems, one of which is the uncertainty in market conditions that can lead to company failure. All actions taken in each activity are initiated and determined by humans who are members of the company. Employee performance is one of the most dominant factors in improving company performance which many factors can influence. The effect produced by each factor will certainly be different for everyone. Therefore, this study was conducted to determine how much influence several variables have on employee performance. The population in this study were employees who had or are currently working on a BUMN construction project with a sample of 122 respondents. To test the established hypothesis, this study will use the Structural Equation Modeling (SEM) method with a software program to input data from the questionnaire results, and then it will be calculated to see how fit the proposed model is. There is one relationship path that has no significant effect, namely the relationship between work environment variables and work motivation variables.

INTRODUCTION

The disruption of economic activity in Indonesia caused by several recent conditions has created an unavoidable competitive environment. The challenge for every company to be able to maintain and overcome an uncertain business environment has put the company in a condition where the company must strive to survive during intense competition. In current conditions, companies often encounter several problems, that are caused by the inability to adapt to technological advances or caused by a lack of quality human resources, or uncertainty in market conditions, which can lead to company failure.

All actions taken in each activity are initiated and determined by humans who are members of the company. In the concept of "6M", Man, Money, Material, Machine, Method, and Market, Human Resources (HR) or Man is the main resource in a company as a driver of other resources [1]. Therefore, companies need to provide direction and guidance for their employees, to improve their abilities and produce high performance.

Humans have an important function in achieving performance, so HR requires reliable expertise. Employee performance is one of the most dominant factors in improving company performance. Good human resources should be able to capture inputs obtained from their environment, then manage them using existing resources and transform them into outputs that are useful for company goals. The output produced by a company is an indication of the performance results or the performance of its employees [2]. A good organization is an organization that seeks to improve the capabilities of its human resources, because this is a key factor to improve employee performance [3]. Improving the performance of a company's human resources is very important so that the

company's performance can be maximized. The better the employee's performance, the better the results obtained. Employee performance can be influenced by many factors. The effect produced by each factor will certainly be different for each individual. Several studies on the variables that affect employee performance that has been carried out by previous researchers state that employee performance can be influenced by motivation, work environment, training, competence, loyalty, and work discipline [4], [5]. Meanwhile, according to other literature, factors that affect employee performance can be divided based on 2, namely the individual dimension and the organizational dimension [6]. The individual dimension consists of variables of ability, experience, and motivation. Organizational dimensions consist of leadership, communication, and work environment.

Indonesian construction companies are no exception. Construction projects are the main source of income, selling units or outputs for companies engaged in construction. Amid all the problems that have occurred lately, many construction companies have experienced setbacks. *Badan Usaha Milik Negara* (BUMN) is a business entity whose capital is wholly or substantially owned by the state through direct participation originating from separated state assets. The selection of the BUMN sample is based on the increasingly important role of BUMN as a pioneer in business sectors that are not yet attractive to competitors.

An example is PT Brantas Abipraya (Persero). PT Brantas Abipraya said to continue to improve the development of its human resources to meet the demands of the growing industrial world and win the competition in the construction industry. However, when viewed from the income listed in the annual report, PT Brantas Abipraya continues to experience a derivation from 2018. A significant decline occurred from 2019 to 2020. Operating income in 2019 was 3,636.437 million rupiahs to 2,434,915 million in 2020. Another example is PT Adhi Karya (Persero) which is also one of the state-owned construction companies in Indonesia. In the 2020 sustainability report, PT Adhi Karya (Persero) experienced a decrease in 2020s

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revenue. From the previous 15,307 billion rupiahs, it fell to 10.827 billion rupiahs in 2020. And many other state-owned construction companies are not listed.

As stated by Mayo in [7], human capital is the basis for driving the value of a company's finances. Given the huge role of human resources for the company, the company should be more proactive in developing and paying attention to the management of human resource management. With the data that has been presented, it is indicated that the decline in operating income and profit for the year that occurred is one of the risks of an unstable market situation and companies that are less able to manage their human resources, especially those located on projects. Based on the background and problems that have been described, further analytical research will be conducted on the effect of individual characteristics and abilities, environment, and work motivation, as well as leadership style on the performance of construction project employees at state-owned construction companies and how much influence is generated.

RESEARCH SIGNIFICANCE

This paper investigates the effect of several predetermined variables on employee performance. Confirmation of the research model was carried out using the SEM (Structural Equation Modeling) method with an auxiliary program. After obtaining the results from the research model, it can be determined whether the model needs to be modified by adding several lines of influence or not.

METHODOLOGY

The method used in the test is SEM (Structural Equation Modeling) which is a combination of CFA (Confirmatory Factor Analysis), Regression, and Path Analysis. After the model is determined, validity and reliability tests will be carried out. A validity test aims to see the extent to which a measure accurately represents what happened. While the reliability test is used to see whether the measuring instrument is planned in the form of a questionnaire and is usually measured using Cronbach's Alpha value. Next is the Goodness of Fit (GOF) test or model suitability test which is measured by several indicators and a predetermined cut-off value. This test can imply how good and fit a research model is.

A. FRAMEWORK

Work motivation is described into 8 indicators. This variable is influenced by individual characteristics and the work environment affects employee performance. Individual characteristics and the work environment both have 5 indicators. These two variables affect work motivation and employee performance. Employee performance has 5 indicators and is influenced by all the variables proposed in the paper, namely work motivation, leadership style, individual abilities, work environment, and individual characteristics. Leadership style is translated into 9 indicators. While individual abilities are explained by 6 indicators. These two variables are not affected by any variable but affect employee performance.

Based on Figure 1, in this study, employee performance is an endogenous variable, and leadership style variables, individual ability variables, work environment variables, and individual characteristics variables are exogenous variables. Meanwhile, work motivation variables can be categorized into endogenous and exogenous variables.
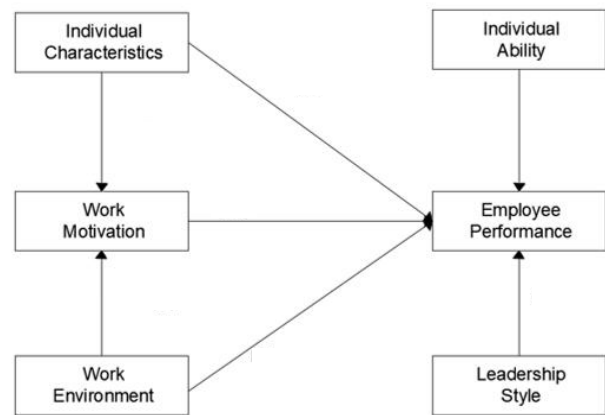

Figure 1 Research framework

B. POPULATION AND RESEARCH SAMPLE

Because the population in this study were employees who had worked or were currently working on a BUMN construction company project and the lack of available data, the number of members of the population in the study was unknown. Therefore, the sampling technique for this research is to use Non-probability Sampling through Snowball Sampling. Non-probability Sampling is a technique for all members of the population to be selected as a sample. Snowball Sampling is a sampling technique when a population is not certain in number by finding one sample which then information will be sought about the other samples, and so on in sequence.

Based on [8] if the sample used in a study is large or large, the research will show a more stable and better solution. However, it is also stated that the decision on sample size in research must be determined based on the complexity of the model and the basic measurement model. The minimum sample size that can provide valid and stable results is a sample size as small as 50. Other studies say that the recommended sample size is 200. However, what needs to be underlined is when the sample size becomes larger or more than 400, the results of the method This SEM will be more sensitive and show almost all the differences that exist and make the measure of goodness of fit has a bad fit.

C. RESEARCH INSTRUMENT

The research instrument is a tool in a study to collect the required data which will later be used to test the research hypothesis. In this research activity, data will be obtained through two data sources, namely primary data and secondary data. Primary data is data obtained directly from respondents and secondary data is data obtained indirectly from respondents. The primary data that will be used in the research is the direct answers from the respondents to the questionnaire survey regarding the research topic.

With all the limitations caused by the pandemic variable at the time of compiling this research, you cannot go directly to the data collection location. Therefore, the method of distributing questionnaire surveys to respondents will be carried out with tools in the form of the Google Form platform with the hope that respondents can access the questionnaire more easily. As for the secondary research data obtained from the study of literature related to the research topic. This secondary data is used for the preparation of a questionnaire that is made in such a way that respondents can only answer questions on several alternatives in language that is easy to understand.

D. DATA ANALYSIS TECHNIQUE

The technique used in analyzing the data that has been collected in this study is SEM (Structural Equation Modeling) with an auxiliary program accompanied by a model suitability test (Goodness of Fit). This method makes it possible to know how the influence of several exogenous variables on endogenous variables. SEM itself is one of the analytical techniques used for testing by integrating variable analysis, structural modeling, and path analysis. There are several stages in making modeling. The following are the steps in conducting SEM analysis [9]:
1. Development of a theory-based model
2. The causality relationship with the path diagram
3. Convert diagrams into equations
4. Selecting the input matrix
5. Assess identification problems
6. Evaluate the model
7. Interpretation and modification of the model

E. VALIDITY TEST

Validity is the extent to which a measure accurately represents what it is actually happened [8]. Validity test can state that whether indicators that are being used in this study are considered relevant or not, so that Actions must be taken to replace or dispose of indicators to prevent this from happening concept deviation.

The technique for measuring the validity of the questionnaire is by looking at the correlation value of the data on each statement of each indicator. The significance value (α) used in this study is equal to 5%. The criteria for evaluating the validity test are as follows:
a. If $r_{count} > r_{table}$, then it can be said that the questionnaire is valid.
b. If $r_{count} < r_{table}$, then it can be said that the questionnaire is not valid.

F. RELIABILITY TEST

The reliability test is used to see whether the planned measuring instrument is reliable or not in the form of a questionnaire. If the same size is asked repeatedly, then the same size more reliable will show greater consistency and stability than unreliable measure [8]. This test is performed with statistical approach, namely through the reliability coefficient or so-called cronbach's alpha.

If the Cronbach's alpha value is a variable obtained from the calculation results is greater than the provisions of the Cronbach's alpha value, then the conclusion of the questionnaire can be drawn it is reliable. Acceptable reliability value in this study is if it is more than 0.6.

G. GOODNESS OF FIT TEST

After the prediction of the model has been submitted, a Goodness of Fit (GOF) or test will be carried out model fit. This test was carried out to measure the suitability of the theory with the observation input [8]. The closer the values for each GOF indicator are generated to requirements, the model can be said to be better and fit. Recap on the boundaries of values Goodness of Fit model testing indicators in this study can be seen in Table 1.

Table 1 Cut-off Value Goodness of Fit Test in SEM

Goodness of Fit	Cut-off Value
Chi Square	Small Value Expected
RMSEA	≤ 0.08
GFI	≥ 0.9
AGFI	≥ 0.9
CFI	≥ 0.9
TLI	≥ 0.9
DF	Positive
CMIN/DF	≤ 2.0

RESULTS AND DISCUSSIONS

The population in this study are employees who have worked or are currently working on state-owned construction company projects, where the results show that the respondents came from 7 state-owned contractors and various projects spread throughout Indonesia. The study used a sample of 122 respondents. The survey period was conducted from February 2022 to April 2022. The survey was conducted using a Likert scale questionnaire 1-5 (1 = strongly disagree and 5 = strongly agree).

A. VALIDITY AND RELIABILITY TEST

The validity test of the study used a significance value (α) of 5%. The variables used in this study are employee performance is measured by 5 indicators, work motivation is measured by 8 indicators, ability style is measured by 9 indicators, individual ability is measured by 6 indicators, and work environment is measured by 5 indicators. The overall results of the validity test show valid results, so it can be said to be valid.

The reliability test in this study will be carried out with an approach through the value of the reliability coefficient or the value of Cronbach's alpha (α) of 0.6. The research instrument can be said to be reliable if $\alpha \geq 0.6$. Based on the results of calculations carried out using the software program, the recap of the Cronbach's alpha coefficient of all indicators of this research is listed in Table 2.

Table 2 Research variable reliability test results

Variable	n of item	Cronbach's alpha value	Result
Employee Performance	5	0.640	Reliable
Work Motivation	8	0.68	Reliable
Leadership Style	9	0.742	Reliable
Individual Ability	6	0.619	Reliable
Work Environment	5	0.697	Reliable

B. OVERALL TEST

Hypothesis testing in this study can be done by looking at the paths in the significant model. The significance of a path can be seen through the partial path coefficients. The overall test results of the conceptual model can be seen through the value of the critical ratio (C.R.), if the value of $CR \geq 1.96$ then it is considered insignificant. In addition, it can also be seen through the path coefficient, seen from the estimated number in the Standardized Regression Weights section. And the last is seen from how important the relationship between the two variables are connected.
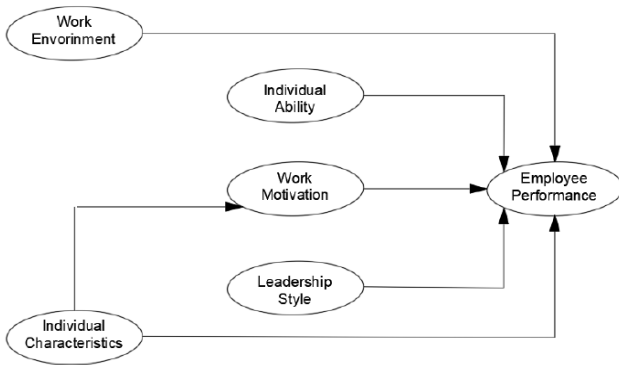

Figure 2 Research final model

For the model to be fit, the insignificant paths must be removed from the path diagram and then re-analyzed with an auxiliary program. By removing one insignificant path, of course, will produce text output that is different from the previous model in the hope that it will have a smaller p-value. The final research model can be seen in Figure 2.

C. GOODNESS OF FIT TEST

The results of the Goodness of Fit analysis for the overall model are seen based on the value of each index which is compared with the cut-off value of each index. The model can be said to be good or fit if it has a Goodness of Fit index value that is greater than or equal to its cut-off value. One of the efforts to improve the model so that it becomes a fit model is by way of adjustment. Adjustment to the model only adds several influence paths to indicators adjusted for real conditions and does not change the main influence path on the hypothesis. After making some adjustments to the model, the results of the goodness of fit test are obtained as shown in Table 3.

Table 3 Goodness of fit empirical model test results

Goodness of Fit	Cut-off Value	Analysis Result	Model Evaluation
Chi Square	Small Value Expected	778.138	Baik
Significance	≥ 0.05	0	Marginal
RMSEA	≤ 0.08	0.589	Baik
GFI	≥ 0.9	0.741	Marginal
AGFI	≥ 0.9	0.703	Marginal
CMIN/DF	≤ 2.0	1.419	Baik
TLI	≥ 0.9	0.739	Marginal
CFI	≥ 0.9	0.759	Marginal

Based on Table 3, not all of them but most of the criteria have a good value because there are one or several results that exceed the cut-off value. Therefore, the model in this study cannot be fully used properly in an environment that is suitable for the research sample. Thus, the variables tested in this study can be stated to produce poor information.

CONCLUSIONS

Based on the results and discussion of the research that has been done, two conclusions are obtained. The first is the variable of work motivation, leadership style, individual ability, work environment, and individual characteristics that affect employee performance variables. Then the second is that the individual characteristics variables affect the work motivation variable, but the work environment variable does not affect the work motivation variable. The next strategy after getting the result is that the company can implement any things that can improve employee performance by looking at the variables and indicators that have an effect.

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