

Analysis of the Influence of Project Manager’s Leadership Style on Human Resource Performance and Project Success

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Abstract— The problem that often occurs is that project managers are less successful in managing human resources to achieve goals. Research to analyze the influence of the project manager’s leadership style on human resources performance and project success. Research on road infrastructure in East Java that carried out by large-scale contractors. Questionnaires to employees as primary data and interviews with division managers as supporting data. Test validity, reliability, Pearson correlation, and Structural Equation Modeling. Data of 145 respondents. The result that the project manager’s leadership style is very influential on the performance of human resources (0.77) and project success (0.71). However, the performance of human resources have not very influential in project success (0.16).

Keywords— Leadership style: human resource performance: project success.

I. INTRODUCTION

At present, competition in the construction world is getting tougher. Many construction companies in Indonesia want to achieve success and compete professionally with each other. Problems that often occur in construction companies are less successful project managers in organizing, influencing, directing or leading human resources to carry out activities related to their duties to achieve the goals set.

Human resource performance, also requires encouragement, direction, or influence from a leader. Project managers must be able to see the characteristics of human resources for work and human resources need to be motivated so that they can improve the performance of human resources.

In a previous study by Abriyani Sulistyawan (2008) based on the results of correlation analysis, there was a significant relationship between the factors that influenced the performance of the project team and the success of the project.

In previous research on construction projects at Bandung and Jakarta, Caroline Maretha Sujana, Yudianto Priatmojo, and Felix Hidayat (2013) showed that the leadership style expected from a leader is transformational and authentic. Traits that are expected to communicate well and can be trusted.

In previous research on government and private projects in DKI Jakarta and Banten Province, Andi Maddepunggeng, Rahman Abdullah, Mustika T. F (2016) showed a relationship between work experience variables and human resource performance of 0.473 (moderate), leadership style on human

resource performance amounting to 0.972 (very strong). Meanwhile, work experience and leadership style on the performance of human resource is 0.549 (medium). The research method used is structural equation modeling.

Researchers are interested in researching the analysis of the influence of the leadership style of project managers on the performance of human resources and the success of the project. Research at locations and cultures is different from previous research.

In the previous study, using structural equation modeling were two exogenous variables and one endogenous variable. Whereas, researchers now will use structural equation modeling, namely one exogenous variable and two endogenous variables.

The purpose of the research is to be able to analyze the influence of the leadership style of the project manager on the performance of human resources, the leadership style of the project manager on the success of the project, and also the performance of human resources on the success of the project.

II. LITERATURE REVIEW

Situational leadership style is a leadership style known as contingency leadership based on considerations such as leaders, followers, and situations (task structure, power map, and group dynamics).

A. Situational Leadership Styles

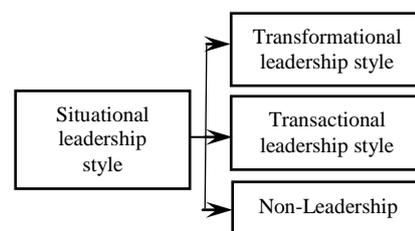


Fig. 1. Grouping of situational leadership styles in the opinion of new experts Antonakis & House (2002).

Antonakis and House (2002) explain that transactional leadership identifies and explains assignments to subordinates, and communicates how to carry out the tasks well according to the leadership's wishes with reward and punishment (Utaminingsih, 2014).

This transformational leadership model focuses more on personnel based on the needs of employees and leaders at present and in the future, identified by four characteristics, namely: (1) the existence of idealists, (2) inspired by motivation, (3) stimulated by intellectual level, and (4) consider individuals (Rosenbusch & Townsend, 2004), (Utaminingsih, 2014).

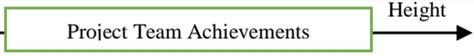
Non-leadership is leadership avoidance (Utaminingsih, 2014).

B. Performance of Human Resources

One expectancy theory developed by Vroom that performance is a function of motivation and ability. Motivation from organizational members increases so that performance will also increase (Erviyanto, 2005).

TABLE I. The driving factors and obstacles to the achievement of the project team.

Obstacle Factor	Driving Factors
a. The objectives and direction of the project are unclear	a. Professionally interesting work.
b. Not enough resources	b. Recognition of work results
c. There have been many conflicts	c. The leader has experience in the fields of management and engineering
d. Not enough attention and care from the leadership	d. Correct handling of leadership and technical guidance
e. A job guarantee is unclear	e. Quality project team personnel
f. Goals and priorities change frequently	f. Professional level potential



C. The Success of a Construction Project

The key to the success of the project (Oberlender, 2000) is:

- The representative responsibility of field construction must be clearly defined.
- Good communication. The project manager agrees that the source of most problems is poor communication.
- The project organization chart usually shows a line of vertical authority. However, sometimes it is not responsive to timely dissemination of information. There is a need for horizontal communication between people involved in work, but this is the most difficult to monitor because it is generally verbal and often not documented. So, it is also necessary to limit horizontal communication in sharing information.

According to Alfian Malik (2010), construction management will guide managers to coordinate resources during construction to achieve goals. There are three obstacles:

- Rising material prices and inefficiencies in the use of resources are the riskiest things. Poor management of costs can cause losses.
- Quality of material is adjusted work specifications. Whereas, the quality of the implementation depends on skill, planning, scheduling, and control.
- Planning, scheduling and controlling time is very influential on the timeliness of completion of work.

III. RESEARCH METHODOLOGY

A. Population and Sample

The population in this study are employees and top management or division managers on road projects in East Java have been completed or in the process of construction carried out by large-scale contractors. Road projects include the design and build of Flyover and Tapper in Teluk Lamong Terminal, Gempol-Pasuruan Section 3A Toll Road, and Pandaan-Malang Toll Road section 1, 2, 3, 4 and 5.

The sample has a target of 100-150 respondents from the questionnaire. Respondents are employees of construction services companies.

B. Research Variables

The independent variable or also called exogenous latent in the research is the leadership style of the project manager.

TABLE II. Indicators of leadership style.

Indicator	Symbol
motivating	X1
make employees happy to work	X2
provides an opportunity to discuss	X3
involving labor participation	X4
make a decision together	X5
set work relationships	X6
good relations	X7
give advice	X8
pay attention to the conflict	X9
knowing abilities and skills	X10
direct the work	X11
tell duration	X12
provide standard	X13
specify the standard	X14
Showing things that can attract work interest	X15
provide challenging work	X16
control	X17
evaluate two directions	X18
give command	X19

Endogenous variable (intermediate) is a human resource. Endogenous variable (dependent) is a successful construction project.

TABLE III. Indicators of human resource performance.

Indicator	Symbol
company target	X20
level of achievement of work volume	X21
do a good job	X22
full calculation	X23
deft	X24
prioritizing work priority	X25
proactive	X26
adjustment	X27
work attitude	X28
working relationship	X29
master the task	X30
master other field assignments	X31
initiative in working	X32
understand K3	X33
comply with K3	X34

TABLE IV. Indicators of the success of a construction project.

Indicator	Symbol
on time	X35
enthusiasm and commitment of members	X36
the quality produced	X37
the success of the work ever done	X38
trust each other	X39
member ability to solve problems	X40
ability to analyze project risk	X41
corporate culture	X42
company management	X43

C. Data Analysis Techniques

The process of analysis with IBM SPSS 25 and AMOS 24 software, namely:

- Test Validity
Look for correlations between questions and total scores using the Pearson correlation coefficient formula. If $r_{count} > r_{table}$ and significance value < 0.05 , the question in the questionnaire is valid.
 - Reliability
The Alpha Cronbach test measures the degree to which a set of question items (variables) matches a construct. The closeness of the relationship can be used the criteria of Guilford (1956), namely as follows:
 - less than 0.20 = a very small relationship and can be ignored.
 - 0.20 - <0.40 = small relationship (not tight)
 - 0.40 - <0.70 = a fairly close relationship
 - 0.70 - <0.90 = close (reliable) relationship
 - 0.90 - <1.00 = very close relationship (very reliable)
 - 1.00 = perfect relationship
 - Structural Equation Modeling (SEM)
Analysis tools in SEM are:
 - Confirmatory Factor Analysis (CFA)
Test the measurement model whether indicators can explain the construct and can be considered as not influential or explain the construct. CFA can also be used to test the link between indicators and constructs.
 - Multiple Regression Analysis
Testing the structural model is there a significant relationship between exogenous (independent) and endogenous (dependent) variables. If there is, how strong is the relationship?
- In addition to regression, another analysis tool is a correlation, which has the same goal of measuring the relationship between two variables.

Hair in Ferdinand (2000) states that the model is said to be good if at least one analysis results that meet the cut-off value required for the Goodness of Fit Overall Model.

D. Flowchart of Research

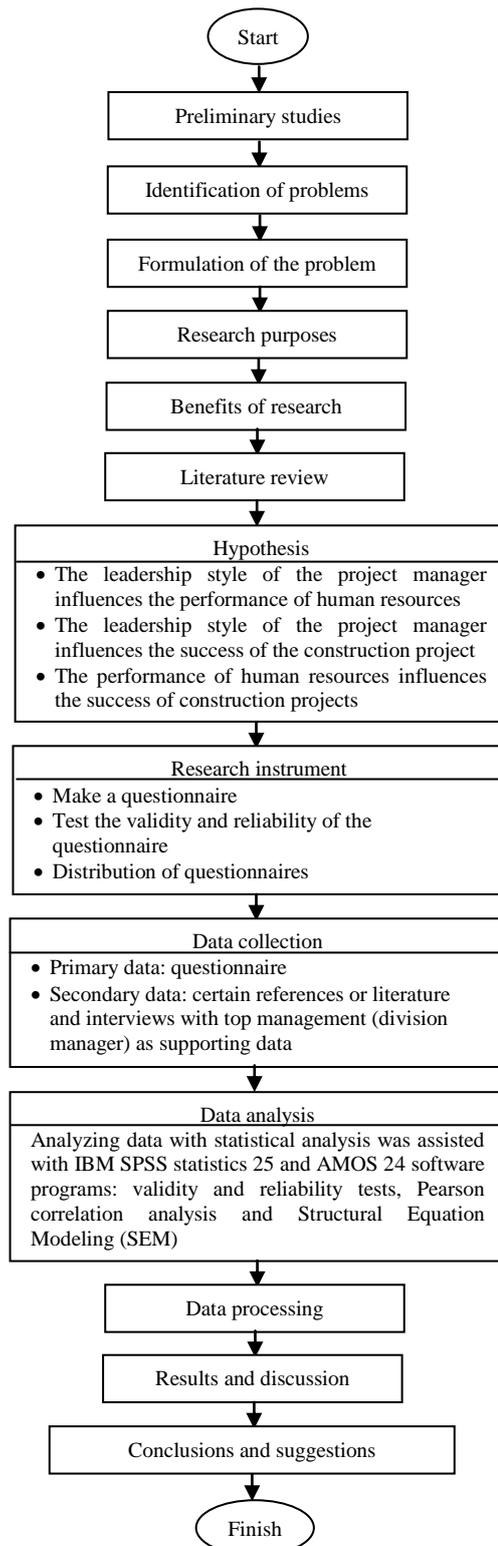


Fig. 2. Flowchart of research.

IV. RESULTS AND DISCUSSION

A. General Data of Respondents

Data collected as many as N (number of samples) = 145 respondents on road projects in East Java that were carried out by large-scale contractors. When viewed from the position of the respondent consisting of staff (85.517%), supervisors (1.379%), section heads (4.138%), assistant managers (6.207%), construction deputy managers (0.690%), and construction managers (2.069%). If seen from the age group of respondents consisting of 20-30 years (60%), 31-40 years (25.517%), and > 40 years (14.483%). When viewed from gender, the respondents consisted of men (90.345%) and women (9.655%). When viewed from the latest education the respondents consisted of high school / vocational / equivalent (35.172%), D1 / equivalent (0.690%), D3 / equivalent (20%), D4 / Equal (2.069%), S1 / Equal (42.069%), and S2 / equivalent (0%). When viewed from the length of work the respondents consisted of < 5 years (64.138%), 5-10 years (21.379%), 11-15 years (7.586%), and > 15 years (6.897%).

B. Test Validity and Reliability

The r table value with a significance of 5% at N = 145 is 0.163 and the results of the analysis that all variables are above the r table value and the significance value < 0.05 which indicates that all variables are valid.

Next, a reliability test is carried out. The results of the analysis that the coefficient value of the reliability of the project manager's leadership style is 0.764, the performance of human resources is 0.754, and the success of the project is 0.784. This value based on the closeness of the relationship has a close relationship (reliable).

C. Pearson correlation analysis

The results of the analysis with the help of the SPSS 25 program so that the results are as follows:

- The leadership style of the project manager has a strong influence on the performance of human resources which has a significant correlation of $0,000 < 0,05$ and Pearson correlation coefficient $0,736 > r$ table (0,163).
- The leadership style of the project manager has a strong influence on the success of construction projects that have a significant correlation of $0,000 < 0,05$ and Pearson correlation coefficient $0,772 > r$ table (0,163).
- However, human resource performance has a close influence on the success of construction projects having a significant correlation of $0,000 < 0,05$ and Pearson correlation coefficient $0,658 > r$ table (0,163).

D. Analysis of Structural Equation Modeling (SEM)

- The leadership style of the project manager

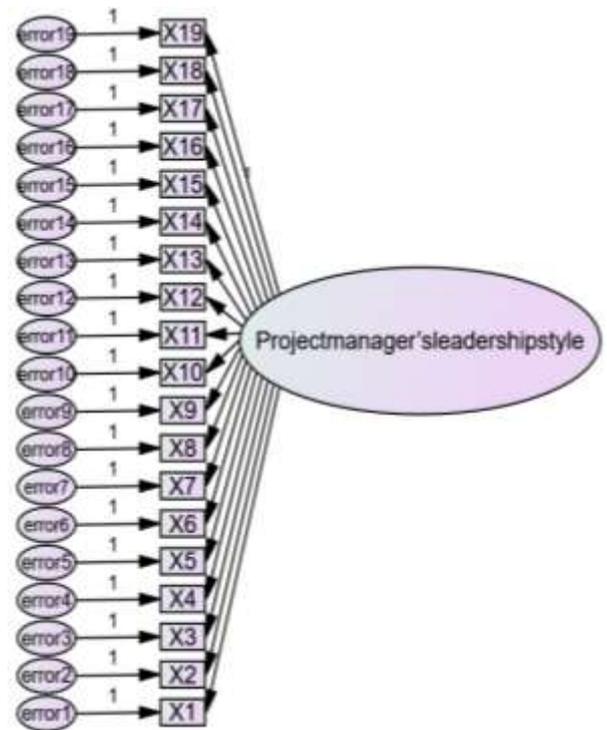


Fig. 3. CFA model of project manager leadership style.

The results of the model are said to be good because they have:

- RMR value (0,05) is close to 0, GFI (0,73) and AGFI values (0,66) close to 1.
- CMIN default model value (510,04) is between CMIN saturated model (0,00) and CMIN independence model (2274,24).
- NFI (0,78), CFI (0,83), IFI (0,83), RFI (0,75), and TLI values (0,81) close to 1.
- PRATIO (0,89), PNFI (0,69), PCFI values (0,74) close to 1.

TABLE V. Confirmatory factor analysis of the project manager's leadership style.

Relationship	Standardized regression weight	Squared multiple correlations	p-value
X1← GK	0,70	0,49	***
X2← GK	0,79	0,63	***
X3← GK	0,73	0,53	***
X4← GK	0,74	0,55	***
X5← GK	0,81	0,65	***
X6← GK	0,77	0,60	***
X7← GK	0,61	0,37	***
X8← GK	0,81	0,66	***
X9← GK	0,77	0,59	***
X10← GK	0,61	0,38	***
X11← GK	0,74	0,54	***
X12← GK	0,77	0,60	***
X13← GK	0,83	0,69	***
X14← GK	0,74	0,55	***
X15← GK	0,81	0,66	***
X16← GK	0,60	0,36	***
X17← GK	0,79	0,62	***
X18← GK	0,80	0,64	***
X19← GK	0,43	0,19	***

• Performance of human resources

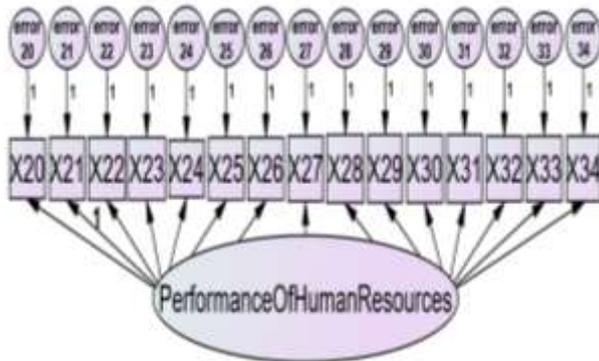


Fig. 4. Model CFA of human resource performance.

The results of the model are said to be good because they have:

- The value of RMR (0.03) is close to 0, the value of GFI (0.78) and AGFI (0.71) close to 1.
- The default CMIN model value (318.85) is between CMIN saturated models (0.00) and CMIN independence models (986.12).
- NFI (0.68), CFI (0.74), IFI (0.75), RFI (0.62), and TLI (0.70) values close to 1.
- PRATIO value (0.86), PNFI (0.58), PCFI (0.64) close to 1.

TABLE VI. Analysis of confirmatory factors in the performance of human resources.

Relationship	Standardized regression weight	Squared multiple correlations	p-value
X20← KS	0,67	0,44	***
X21← KS	0,65	0,42	***
X22← KS	0,74	0,54	***
X23← KS	0,60	0,36	***
X24← KS	0,59	0,35	***
X25← KS	0,44	0,19	***
X26← KS	0,44	0,20	***
X27← KS	0,61	0,37	***
X28← KS	0,63	0,39	***
X29← KS	0,55	0,30	***
X30← KS	0,66	0,44	***
X31← KS	0,70	0,49	***
X32← KS	0,69	0,47	***
X33← KS	0,45	0,21	***
X34← KS	0,51	0,26	***

• The success of a construction project

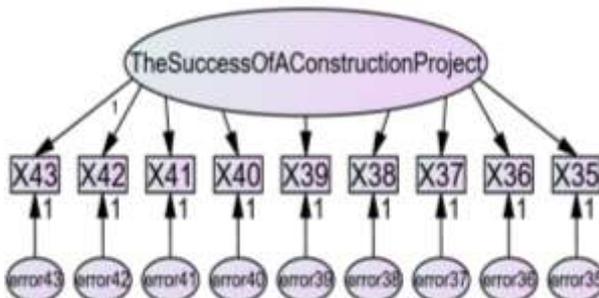


Fig. 5. CFA model for the success of a construction project.

The results of the model are said to be good because they

have:

- The value of RMR (0.03) is close to 0, the value of GFI (0.81) and AGFI (0.68) close to 1.
- The default CMIN model value (144.82) was between CMIN saturated models (0.00) and CMIN independence models (925.95).
- NFI (0.84), CFI (0.87), IFI (0.87), RFI (0.79), and TLI (0.82) values close to 1.
- PRATIO value (0.75), PNFI (0.63), and PCFI (0.65) close to 1.

TABLE VII. Analysis of confirmatory factors for the success of a construction project.

Relationship	Standardized regression weight	Squared multiple correlations	p-value
X35← KP	0,76	0,58	***
X36← KP	0,74	0,55	***
X37← KP	0,82	0,68	***
X38← KP	0,74	0,55	***
X39← KP	0,81	0,65	***
X40← KP	0,67	0,45	***
X41← KP	0,76	0,58	***
X42← KP	0,75	0,57	***
X43← KP	0,83	0,69	***

- The influence of the project manager's leadership style on the performance of human resources and the success of the project

TABLE VIII. Estimated parameters between latent variable structural models.

Relationship	Estimate
KS← GK	0,77
KP← GK	0,71
KP← KS	0,16

The leadership style of the project manager has a strong influence (0.77) on the performance of human resources.

The project manager's leadership style has a strong influence (0.71) on the success of the construction project.

The performance of human resources does not have a strong influence (0.16) on the success of construction projects.

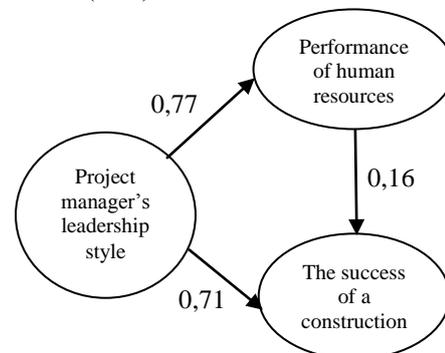


Fig. 6. Research model.

V. CONCLUSIONS AND SUGGESTIONS

A. Conclusions

The conclusion of this study are:

- The leadership style of the project manager has a strong influence on the performance of human resources.

- The leadership style of the project manager has a strong influence on the success of the project.
- However, the performance of human resources does not have a strong influence on the success of the project.
- Road projects in East Java that are carried out by large-scale contractors, namely:
 - The leadership style of the project manager is strongly influenced by providing standards and evaluating two directions.
 - The leadership style of the project manager is influenced quite weakly by giving the command.
 - Project managers have a nearly balanced transformational and transactional leadership style.
 - Project managers have a nearly balanced transformational and transactional leadership style. The performance of human resources is strongly influenced by doing a good job and understanding K3.
 - The performance of human resources is influenced not so strongly by prioritizing work priorities and proactive.
 - Company management and quality produced strongly influence the success of construction projects.
 - If there is a quality improvement because it does not meet the standards, there will be a swelling of costs and the impact of the projected loss.
 - The success of construction projects is not so close to the ability of members to overcome problems.

B. Suggestions

There are several suggestions, including:

- For contractors
Can be a consideration in increasing the effectiveness of his leadership.
- For further research
For further research, it is necessary to develop research with different types of infrastructure, culture, and service providers and grades.

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