



# The Effect of Transformational Leadership, Job Satisfaction & Organizational Commitment on Training Effectiveness Toward Project Performance

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## Abstract

This study examines the effect of transformational leadership, job satisfaction, and organizational commitment on construction project performance in Indonesia, with training effectiveness as a mediator. Data were obtained through a survey of 270 respondents who work in construction projects and have attended training, analyzed using SPSS and Smart-PLS SEM. The results show that transformational leadership, job satisfaction, and organizational commitment have a positive and significant effect on project performance. However, training effectiveness does not mediate the relationship between these variables and project performance. Descriptive statistical analysis showed that job satisfaction had the highest mean value, while project performance had the lowest mean value. These findings highlight the importance of increasing job satisfaction and organizational commitment to improving project performance. This research contributes to understanding key factors affecting construction project performance in Indonesia and provides insights for decision-makers in developing training programs and HR policies. The researcher recommends further research on other construction companies to strengthen these findings and consider additional variables such as organizational culture and work motivation for success strategies in a competitive business climate.

**Keywords:** *Transformational Leadership, Job Satisfaction, Organizational Commitment, Training Effectiveness, Project Performance.*

## 1 Introduction

### 1.1 Background

Indonesia's construction industry has contributed significantly to the national GDP, with an average contribution of 9.94 percent from 2015 to the third quarter of 2021. The sector employs around 8.7 million people by 2023, showing a positive employment growth trend. In addition, the Strategic Plan of the Ministry of Public Works and Housing (PUPR) includes various key targets such as the provision of raw water, construction of dams, rehabilitation of irrigation networks, and development of decent housing infrastructure. Indonesia's construction market is valued at

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USD 264.34 billion in 2023 and is predicted to reach USD 379.41 billion by 2028 at a CAGR of 7.50 percent. The construction sector, which involves various residential and non-residential projects, is one of the most lucrative sectors in Asia.

Despite numerous investments and human resource (HR) training programs made by organizations in the construction sector, the resulting project performance is often inadequate. Internal data shows that project profit averages only 5% against a minimum target of 10%. Rework on projects was three times higher than the target, project completion was only 56% of the target time, and there were significant violations of safety protocols, including one fatality. This phenomenon highlighted the gap between HR training and optimal project performance outcomes.

Based on previous research, investment in HR through effective training can improve project performance [1]. Job satisfaction, organizational commitment, and transformational leadership are important factors that can affect individual and overall project performance [2]. Research shows that increased job satisfaction, organizational commitment, and transformational leadership have a significant positive impact on employee and project performance. However, an employee opinion survey (EOS) in 2022 showed that only 30% of employees were highly engaged with the organization, while the rest felt unsupported, disengaged, or disconnected from the organization. The mismatch between the experience offered by the company and employees' expectations regarding rewards, career development, and work-life balance, as well as the lack of transformational leadership, are factors that need to be considered.

Improving project performance through HR quality improvement and transformational leadership can have a significant positive impact on productivity and profitability. By understanding and addressing the gap between HR training and project performance outcomes, and improving employee commitment and job satisfaction, companies can achieve a competitive advantage in the construction industry. In addition, this research provides strategic insights for decision-makers in developing more effective training programs and HR policies that meet industry needs. Thus, this research contributes to improving the efficiency and effectiveness of construction projects in Indonesia.

## **2 Literature Review**

### **2.1 Transformational Leadership**

Leadership is also a key element in improving project performance. Research on leadership has been growing since the 1950s, and various leadership philosophies have been identified. One of the most prominent is transformational leadership, introduced by B. M. Bass & B. J. Avolio [3]. Transformational leadership combines idealistic influence, individual consideration, intellectual stimulation, and inspirational drive to bring about change and stability in organizations. This leadership style has proven effective in improving team and project performance.

### **2.2 Job Satisfaction**

Job satisfaction also plays an important role in project performance. Job satisfaction is the emotional response individuals have to their jobs, which affects their attitudes and behaviors at

work. Various studies have shown that high job satisfaction is positively related to employee performance. According to J. R. Hackman and G. R. Oldham [4], job satisfaction arises from the joy that individuals experience while doing their jobs, which ultimately contributes to better project performance.

### **2.3 Organizational Commitment**

Organizational commitment is also an important factor in project performance. Organizational commitment refers to an employee's emotional attachment to their organization. [5] J. P. Meyer and N. J. Allen identified three types of commitment: affective, normative, and continuance. Employees who have a high commitment to the organization tend to work harder and be more dedicated, which has a positive impact on project performance. Research shows that organizational commitment is significantly related to employee and project performance.

### **2.4 Training Effectiveness**

Employee development and training play an important role in improving project performance. Dessler (2004) mentions that training is necessary to fill the gap between what is expected and what is actually known by an employee. Evaluation of the effectiveness of training is also very important to ensure that the knowledge and skills acquired are actually beneficial to project performance.

### **2.5 Project Performance**

Project performance in the construction industry is not only assessed from the aspects of cost, time, and quality, but also from a broader stakeholder perspective. Effective project management requires an in-depth understanding of the dynamics of the project management process. PMI states that project management is the application of information, skills, tools, and processes to meet the expectations of project stakeholders. Therefore, a combination of effective training, transformational leadership, job satisfaction, and organizational commitment is critical to achieving optimal project performance.

Based on the reviewed literature, it is suggested that training effectiveness, transformational leadership, job satisfaction, and organizational commitment all contribute to improved project performance. This study hypothesizes that transformational leadership, job satisfaction, and organizational commitment have a positive influence on project performance. In addition, training effectiveness mediates the relationship between transformational leadership, job satisfaction, organizational commitment, and project performance.

In the context of this study, the proposed hypotheses are as follows: (H1) Transformational Leadership has a positive effect on Project Performance, (H2) Job Satisfaction has a positive effect on Project Performance, (H3) Organizational Commitment has a positive effect on Project Performance, (H4) Training Effectiveness has a positive effect on Project Performance, (H5) Training Effectiveness positively mediates the relationship between Transformational Leadership and Project Performance, (H6) Training Effectiveness positively mediates the relationship between Job Satisfaction and Project Performance, and (H7) Training Effectiveness positively mediates the relationship between Organizational Commitment and Project Performance.

### 3 Methodology

This chapter explains how the research method is used to test the hypotheses developed based on previous studies and literature exploration. Figure 1. illustrates the research model and the relationship between constructs/variables.

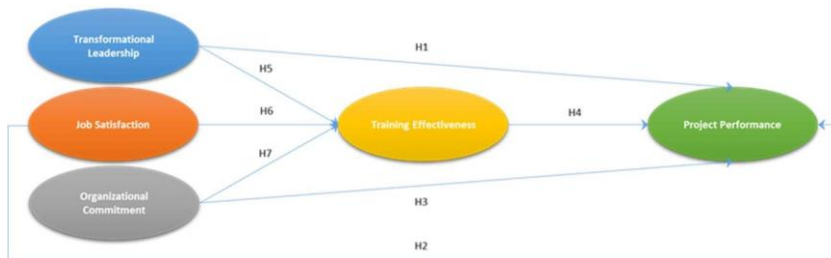


Figure 1 Research Model

#### 3.1 Research Design

A research design is a research blueprint that contains a design for conducting marketing research that includes a series of processes that must be followed by researchers to collect the information needed to solve research problems. This research design can serve as a summary of the entire research methodology [6]. Research design is divided into two parts: Exploratory Research Design to gain insight and understanding of the problem at hand, and Conclusive Research Design which aims for decision-making with further categories such as Descriptive Research Design and Causal Research [7]. This research uses a descriptive quantitative research design with a survey approach to determine the attitudes, opinions, and responses of respondents to the research topic.

#### 3.2 Research Context and Unit Analysis

Determining or knowing the research unit of analysis plays an important role in any research endeavor. The unit of analysis is influenced by the research questions, hypotheses, variables, measurement tools, sampling procedures, population to be generalized by the findings, data analysis methodology, and all other aspects of scientific investigation. The scope of this research is employees of construction companies operating in Indonesia.

### **3.3 Data Collection**

The population in this study were local construction workers in private companies with a total of >300 people based on statistical data in 2022. The sampling method used is a non-probability technique with convenience and purposive sampling. This technique was chosen because it makes it easier for researchers to collect data from respondents who match the predetermined criteria, such as the ages between 18-40 years and who have attended training. Data collection was carried out through a questionnaire survey distributed online using Google Forms, which was previously tested for validity and reliability.

### **3.4 Data Processing Procedure**

The data processing process began with data preparation, screening, and validity and reliability testing. The data collected through the online survey was transferred to a spreadsheet format for further analysis using SPSS software. Validity testing was conducted using factor analysis to ensure that the instruments used were in line with the constructs being measured. Reliability testing used Cronbach's Alpha to measure the internal consistency of the research instruments. The expected Cronbach's Alpha value is at least 0.70 to indicate good internal consistency.

### **3.5 Data Analysis**

Data analysis in this study was conducted using SPSS software version 26 and SmartPLS version 4. The multiple linear regression method was used to test the hypotheses that have been proposed. This approach allows researchers to assess the relationship between the independent variables (transformational leadership, job satisfaction, organizational commitment, and training effectiveness) and the dependent variable (project performance). Data analysis includes validity and reliability tests to ensure the reliability and accuracy of the research instruments.

Using this methodology, the study aims to test the hypothesis that transformational leadership, job satisfaction, and organizational commitment have a positive effect on project performance. In addition, training effectiveness is estimated to mediate the relationship between these independent variables and project performance, providing a deeper understanding of the factors that influence the success of construction projects in Indonesia.

## **4 Result & Discussion**

### **4.1 Sample and Procedure**

The empirical research was conducted on May 8-27, 2023 in several construction projects operating across Indonesia. Data was collected through Google Forms and distributed to construction projects in Indonesia. Respondents were invited to take the online survey by being provided with a link to the questionnaire. The questionnaire included questions that reflected the respondent and company profile. The survey was distributed to approximately 350 people and received responses from 270 respondents.

### **4.2 Demographics of Survey Respondent**

The study included various control variables to define respondent characteristics, including

gender, education level, age, and experience. Most respondents were male (91%), with the majority having a bachelor's level education (53%). Respondents fell into three main age groups: 25-34 years (41%), 35-45 years (34%), and over 45 years (25%). Based on experience, 45% had less than 5 years of experience, and most others had between 5 and 10 years of experience.

#### **4.3 Pre-Data Analysis Measures**

Survey responses were filtered using Mahalanobis Distance to identify and remove outlier data. After the data purification process, six outliers were found and removed, so the data from 273 respondents was used for further analysis. The normality test showed that the data was normally distributed, while the multicollinearity test showed that the regression model showed no signs of multicollinearity. Levene's test of homogeneity variance showed no significant differences in response patterns between the control variables.

#### **4.4 Descriptive Statistic Analysis**

Descriptive statistical analysis is used to summarize or describe the nature of information, including the mean and standard deviation of variables. Based on this analysis, Job Satisfaction (JS) has the highest mean value among the six independent variables, while Project Performance (PP) has the lowest mean value. Further analysis showed that effective training according to job needs and transformational leadership are considered to consider moral and ethical consequences.

#### **4.5 Structural Equation Modelling Analysis**

This study used Smart PLS version 4 software to conduct structural equation modeling (SEM). SEM was used to test the hypotheses and conduct a confirmatory factor analysis of the research model. Goodness of Fit (GOF) of the model was analyzed to ensure the research results are valid and reliable. The results show that the model fit index values support a good model, with an SRMR value of 0.054 and an NFI of 0.744.

#### **4.6 Hypothesis Test**

Hypothesis testing results show that Job Satisfaction (JS), Organizational Commitment (OC), Transformational Leadership (TL), and Training Effectiveness (TR) have a positive and significant effect on Project Performance (PP). However, Training Effectiveness does not mediate the effect of Job Satisfaction, Organizational Commitment, and Transformational Leadership on Project Performance. These results suggest that although training is effective, these factors require a direct influence to improve project performance.

#### **4.7 Research Contribution**

This research contributes to the understanding of construction industry issues by answering research questions and clarifying the relationship between transformational leadership, job satisfaction, organizational commitment, and training effectiveness on project performance. The findings of this study can help clarify phenomena and gaps, and make practical contributions in the business world. This study shows that job satisfaction and organizational commitment have the greatest influence on project performance, so project management should focus on improving these two factors to improve overall project performance.

## 5 Conclusion

The construction industry contributed an average of 9.94% to the country's gross domestic product (GDP) from 2015 to the third quarter of 2021, ranking 4th largest in contribution to national GDP. The industry is highly labor-intensive, so the success of a project is greatly influenced by the performance of everyone involved. This study examines the effect of transformational leadership, job satisfaction, and organizational commitment on project performance with training effectiveness as a mediator. Based on analysis using SEM (Structural Equation Modeling) with SPSS and Smart-PLS, it was found that all four variables have a positive and significant effect on project performance, but the effectiveness of training as a mediator does not affect the relationship between the other three variables on project performance.

This study uses a quantitative approach with 270 respondents who work in construction projects and have attended training. Data were analyzed using a five-level Likert scale, which has been validated and reliable. The results showed that employee performance, as part of the project performance journey, is shaped by the relationship between the company and employees through their leaders. A good relationship between the company and employees directly creates a positive impact on project performance. Project performance is formed from positive sentiments as a result of good transformational leadership, job satisfaction, organizational commitment, and training effectiveness.

Researchers expect future research to be repeated to prove the validity of assumptions that are not supported, and further research can be carried out on other construction companies, both small and large scale. This is to ensure that the findings are representative of the construction industry as a whole. Future research is also expected to integrate other research variables such as organizational culture, work motivation, self-efficacy, and moonlighting intention to help companies formulate success strategies in an increasingly competitive business climate.

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