The Effect Of Project Manager's Competence And Leadership To Project Performance On Industrial Construction Projects

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Abstract: The rapid development of industry in Indonesia indirectly has an impact on the number of construction projects in the industrial area of Bekasi such as factory buildings, warehouses, offices, hotels, and hospitals. This research focuses on the influence of leadership and competence of project manager to project performance in industrial construction project. To find the effect of leadership and competence of project manager to project performance can be done with SEM PLS algorithm. The result show that leadership and competence of project manager has significant effect to project performance.

Index Terms: Competency, Industrial Construction Project, Leadership, Project Manager, Project Performance

1 Introduction

THIS research focuses on the influence of leadership and competence of project manager to project performance in industrial building construction/warehousing/factory. Project manager plays the most important role towards success any project [1]. Project manager leadership as a critical factor of failure or success is considered as a means for assessing project performance [2]. While the lack of competence project manager leadership is directly related to failure project [3]. Project success has traditionally been judged in terms of cost, time, and quality [4]. Construction project failure related to problems and failures in performance [5]. Among the phenomena, problems and previous research, the author finds a gap where this research must be done by the author himself according to the object and subject, so the results will be useful directly correlated to the problems the authors found themselves in the field.

2 Literature Review

2.1 Project Manager

Project manager is someone who appointed to be responsible for the daily activities of project management for the sake of organizational interests [6]. In carrying out project activities, some important interpersonal skills that need to be possessed by a project manager is leadership, team building, motivation, communication, influence, make decision, political and cultural awareness, and negotiation [7].

2.2 Project Manager's Competency

Competence is individual's ability to use and relate knowledge and experience gained in complex situations, variable and unpredictable [8]. Project Manager competencies are divided into 3 parts, including knowledge competence, performance competence and personal competence [9].

2.3 Project Manager's Leadership

Leadership is a process of influencing the activities of an individual or a group to achieve project goals and objectives in a particular situation [10]. Over the past seventy years, there have been six main streams of leadership theory namely the trait school, the behavioral or style school, the contingency school, the visionary or charismatic school, the emotional intelligence school, and the competency school [11], [12].

2.4 Project Performance

Project performance as determining the use of the number of resources required to complete a project. Abushaban defines performance as related to many things and factors such as time, cost and quality, clients, satisfaction, productivity, and safety [5]. A project is considered successful if it is completed on time within the specified budget and quality standards [13].

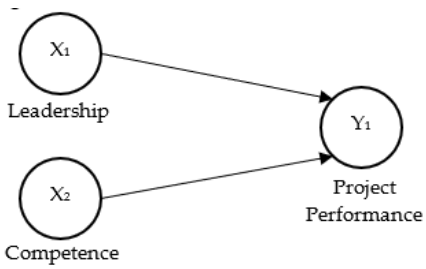

Fig. 1. Relationship Between Variables in The Proposed Model

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3 Project Manager's Competency and Leadership to Project Performance Model

Proposed model is built to prove the effect of manager's competency and leadership to project performance. Relationship between variables in the proposed model is shown in Figure 1.

4 Research Method

The object of this research is the contractor with the classification of industrial and factory buildings according to the Indonesian National Construction Implementing Association (GAPENSI) in Bekasi. This study uses a survey method based on questionnaires filled out by respondents, where questionnaires are given to respondents consisting of Directors, Project Managers or positions that represent the position. The questionnaire consists of 14 questions for the leadership variable, 12 questions for the competency variable, and 18 questions for the project performance variable. The data that has been obtained is then analysed with the SEM PLS algorithm using SmartPLS 3 software.

5 Data Analysis

In this study, there were 3 latent variables consisting of 2 exogenous variables and 1 endogenous variable. The exogenous variables are leadership and competence, while the endogenous variables are project performance. The structural equation model and path model can be seen in Table 1 and Figure 2.

The first step in the analysis is to test the validity and reliability. The results showed that there were several indicators that did not meet the validity and reliability test criteria so that they were excluded from the research model. The new model shows the leadership variable which previously had 14 indicators to 9 indicators, competence variable from 12 indicators to 8 indicators, and project performance variable from 18 indicators to 13 indicators. This new model is then analysed, and the results are obtained as shown in Figure 3 and Table 2.

TABLE 1
Structural Equation Model

Endogenous Variable	Equation
Project Performance	$\gamma_{1.1}$*Leadership + $\gamma_{1.2}$*Competence + ζ

The path coefficient is in the value range of -1 to +1. Coefficients closer to +1 indicate a strong positive relationship.

TABLE 2
Path Coefficient and Hypothesis Testing

Path	Path Coefficient	p-value
Leadership → Project Performance	0.487	0.013
Competence → Project Performance	0.438	0.036

While the coefficient is close to -1, indicating a strong negative relationship [14]. Figure 3 and Table 2 show that both leadership and competence have positive path coefficients. Table 2 also shows that leadership and competence have p-values less than 0.05, this indicates that there is significant effect of both leadership and competence on project performance. The calculation result of model equation can be seen in Table 3.

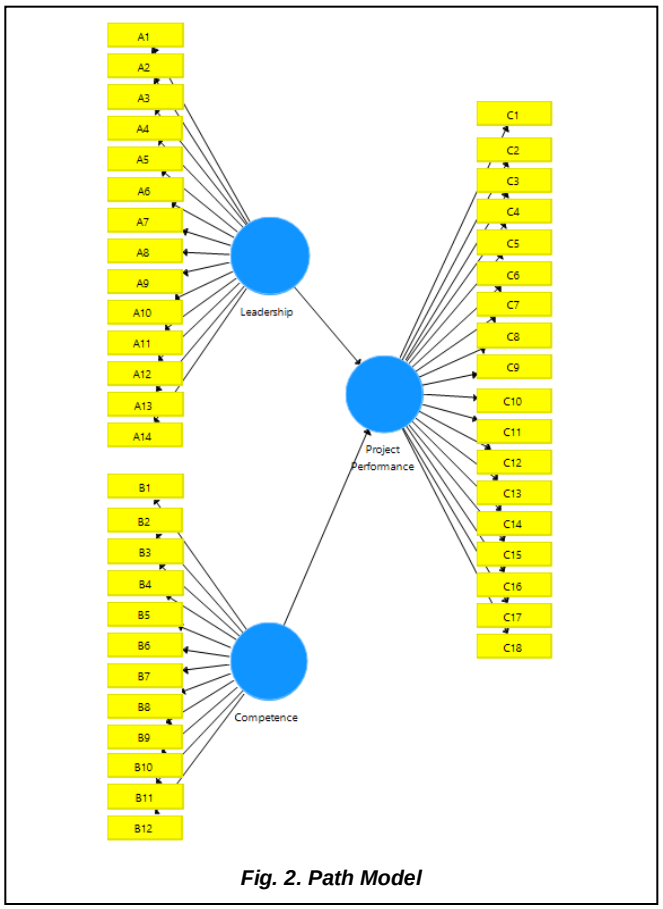

Fig. 2. Path Model

Variable ζ represent variables that are not included in the research. In addition to knowing what variables affect the dependent variable, differences in path coefficients can be used to sort variables based on their strongest influence. From Table 3 can be seen that the leadership variable has a greater influence on project performance compared to competence.

TABLE 3
Structural Equation Model Calculations

Endogenous Variable	Equation
Project Performance	0.487*Leadership + 0.438*Competence + ζ

6 Discussion

The rapid development of industry in Indonesia indirectly has an impact on the number of construction projects in the industrial area of Bekasi such as factory buildings, warehouses, offices, hotels, and hospitals. In the construction industry, the project is a vital object of a company where from this object the company gets many benefits such as company income, business networks, and the reputation of the company itself in the future. This research focuses on the influence of leadership and competence of project manager to project performance in industrial building construction / warehousing / factory.

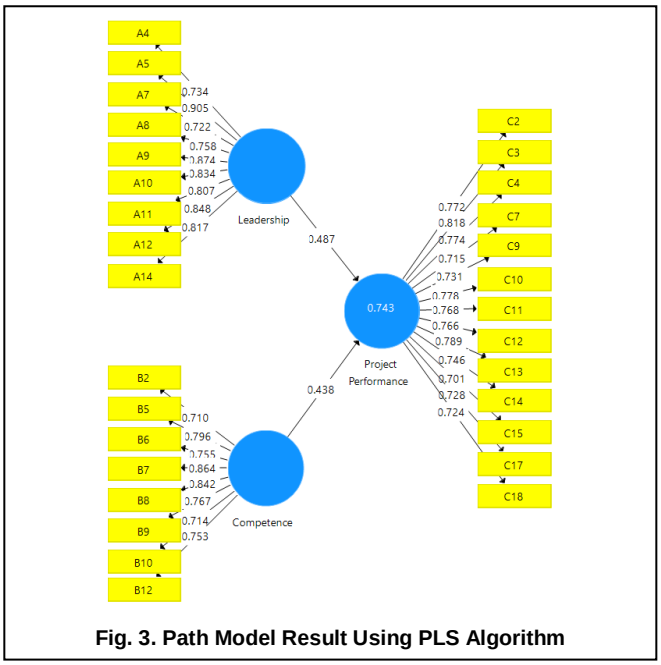

Fig. 3. Path Model Result Using PLS Algorithm

Based on model analysis using SmartPLS 3 software, it was found that leadership and competence of project manager have significant effect to project performance. Leadership has path coefficient of 0.487, which indicates that the better project manager's leadership will improve project performance. Leadership's p-value of 0.013 indicates that leadership has a significant effect to project performance. Competence has path coefficient of 0.438, which indicates that the better project manager's competence will improve project performance. Competence's p-value of 0.036 indicates that competence has a significant effect to project performance. The greater of leadership' path coefficient indicates that leadership has a greater influence on project performance compared to competence. Furthermore, the data analysis also assessed the accuracy of the model's prediction by referring to the R2 value. In this research model, the value of the determination coefficient is substantial because it is above 0.50. The meaning of these values are exogenous variables (leadership and competence) that affect project performance in the tested model, representing 74.3% variance of the project performance scores. This shows that project performance can be improved by increasing leadership and competence of project manager.

4 Conclusion

Following are the conclusions from result of this research:

1) The exogenous variable of leadership has a significant effect on the endogenous variable of project performance, with a positive path coefficient value indicating that the greater the leadership, the greater the project performance.
2) The exogenous variable of competence has a significant effect on the endogenous variable of project performance, with a positive path coefficient value indicating that the greater the competence, the greater the project performance.
3) Leadership and competence partially affect project performance, therefore simultaneously there is a significant effect of leadership and competence on project performance.

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