EFFECTIVENESS OF PAY FOR PERFORMANCE INCENTIVE SYSTEM ON PROJECTS PERFORMANCE

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Abstract: *This study examines the effectiveness of implementing a project performance-based employee incentive system at a state-owned construction company in Indonesia, PT PP (Persero) Tbk. The data were analyzed using a quantitative approach, with the Key Performance Indicator (KPI) for each project before and after the implementation of the project performance-based incentive system. The data was tested using the Wilcoxon test to see if there were statistical differences in project performance before and after the implementation of the project performance-based employee incentive system. The results show that there are statistically significant differences in project KPIs before and after the implementation of the project performance-based employee incentive system. The project KPIs show a higher average value than before the implementation of this system. This research contributes especially for construction companies regarding the pros and cons of implementing a project performance-based incentive system because it is proven to be effective in motivating employees in increasing the average performance of their projects which affect the company's overall performance.*

Keywords: incentive system, key performance indicator, construction company, project performance

Abstrak: Penelitian ini menguji efektivitas penerapan sistem insentif karyawan berbasis kinerja proyek pada salah satu perusahaan konstruksi BUMN di Indonesia, PT PP (Persero) Tbk. Data dianalisis dengan pendekatan kuantitatif, dengan variabel *Key Performance Indicator* (KPI) masing-masing proyek sebelum dan sesudah diterapkannya sistem insentif berbasis kinerja proyek. Data diuji menggunakan uji Wilcoxon untuk melihat apakah terdapat perbedaan secara statistik kinerja proyek sebelum dan sesudah diterapkannya sistem insentif karyawan berbasis kinerja proyek. Hasilnya menunjukkan bahwa secara statistik terdapat perbedaan secara signifikan KPI proyek sebelum dan sesudah diterapkannya sistem insentif karyawan berbasis kinerja proyek. KPI proyek menunjukkan nilai rata-rata yang lebih tinggi dibandingkan sebelum diterapkannya sistem ini. Penelitian ini memberikan kontribusi khususnya bagi perusahaan konstruksi terkait pro dan kontra penerapan sistem insentif berbasis kinerja proyek karena terbukti efektif memotivasi karyawan dalam meningkatkan rata-rata kinerja proyek-proyeknya yang berpengaruh terhadap kinerja perusahaan secara keseluruhan.

Kata kunci: sistem insentif, *key performance indicator*, perusahaan konstruksi, kinerja proyek

INTRODUCTION

This study is an empirical study that will prove the effect of the implementation of a performance-based employee incentive system implemented by a State-Owned Enterprise (BUMN) construction company in Indonesia, PT PP (Persero) Tbk. on project performance by testing whether there are differences in the performance of each project before and after the implementation of the system. performance-based incentives. Previous research (Francis, Zirra, and Charles J. 2020; OBOREH and ARUKAROHA 2021; OKOSI 2020) states that the company's applied incentive system has an effect on the performance of its project managers and the company as a whole. So that this research will also provide evidence regarding the efficiency of implementing a performance-based incentive system, especially in construction companies. The past literature on behavioral research has consistently shown that the highest levels of individual performance can be achieved when linked to reward systems (Ngwa et al. 2019). In addition, the reward system also affects the development of the company's value system, encouragement of motivation and morale, and increasing employee productivity. Furthermore, the level of achievement of organizational goals increases (Noor et al. 2020; OBOREH and ARUKAROHA 2021; Siwale et al. 2020). Thus, the selection of the right reward system can improve the fairness of all members in the company with a consistent implementation system (Francis, Zirra, and Charles J. 2020). However, the pros and cons of the effectiveness of implementing a performance-based incentive system are still an important consideration for companies to implement the most effective system (Frey, Homberg, and Osterloh 2013). This study provides empirical results and evidence regarding the implementation of a performance-based incentive system for employees that can affect the performance of each project in state-owned construction companies in Indonesia.

In the previous literature, the influence of the incentive system on performance has been carried out with various types of professions (Francis, Zirra, and Charles J. 2020; OKOSI 2020; Siwale et al. 2020). Performance-based incentive systems have been shown to affect the performance and quality of services provided by doctors, teachers, employees and managers (Chi et al. 2019; Dodonova and Khoroshilov 2014; Jones, Tonin, and Vlassopoulos 2018; Manthei, Sliwka, and Vogelsang 2019; Mbiti, Romero, and Schipper 2019). However, empirical field studies that examine the effectiveness of performance-based incentive systems in companies operating in the construction sector that affect the performance of each project have not yet been carried out. Thus, this study offers new evidence on the literature on the effectiveness of implementing performance-based incentive systems in state-owned construction companies in Indonesia.

The theory of human motivation explains that individual actions are based on a strong desire to achieve the individual's goals. In addition, the incentive theory of motivation conceptualizes individual behavior based on extrinsic elements of motivation in carrying out tasks or work. Furthermore, individuals can be more motivated to perform a task on the basis of receiving a reward in comparison to performing a task on the basis of enjoyment of the activity (Manganelli et al. 2018). Several previous studies have identified that the factor that most influences the work motivation of construction company project managers is the reward system (Ankli

and Palliam 2012; Marisa and Yusof 2012; PHAN et al. 2020). This study examines the effectiveness of the performance-based incentive system (pay for performance compensation) on project performance, the result of implementation by construction companies.

Work in the construction sector is a job with a high level of stress and job burnout (Wu, Hu, and Zheng 2019). Project managers experience increased stress when faced with high work complexity (Conway et al. 2013; Jepson, Kirytopoulos, and London 2017) so that the accuracy of the incentive system implemented by construction companies will reduce stress levels and can increase project manager motivation and can direct project managers to higher performance (Marisa and Yusof 2012). High-performance project managers who are able to lead and direct their project teams to project success automatically support the company's overall performance.

Field research on the effectiveness of the incentive system needs to be investigated further, especially in companies engaged in the construction sector. The application of an incentive system for project managers affects the company's performance (Francis, Zirra, and Charles J. 2020). Thus, this incentive system becomes important as one of the management control systems for the company because it can lead to an increase in overall company performance (OBOREH and ARUKAROHA 2021).

The reward system is part of the management control system used by the company through increasing the motivation of employees and managers for efforts to improve performance. This system is used as a part of the company's internal control system which leads to changes in the company's overall performance (PHAN et al. 2020). Practically, the first contribution to this study for the management control system in construction sector companies is that this

study provides an overview of the implementation of an effective incentive system in its effect on the project performance of companies engaged in the construction sector. Second, this study contributes to the literature on the effectiveness of implementing employee incentive systems in influencing the project performance of construction companies. In particular, with regard to the stimulus for providing an incentive system based on the performance context.

Incentive Theory and Incentive System

Incentives are additional compensation outside of the salary or wages provided by the company to employees. Incentive programs are tailored to provide additional payments based on productivity, sales, benefits or efficiency measures (cost cutting). Incentive theory is used as an effort to increase employee enthusiasm, which aims to develop the company (Yan and Yao 2019). The incentive theory of motivation has the concept of individual behavior based on extrinsic elements of motivation in carrying out tasks or work.

The book entitled industrial/organizational psychology states that one of the most important reasons for evaluating employee performance is to provide a fair basis for determining employee salary increases (Aamodt 2015). When performance appraisal results are used to determine salary increases, numerical performance appraisal results are more needed than narrative appraisals. There are two incentive systems commonly used in companies:

Fixed pay incentive system

Fixed pay is an incentive whose amount and payment have been determined, such as basic salary, seniority bonus, 13th salary, and others. Meanwhile, flexible pay includes variable pay and deferred income,

such as profit sharing, bonuses, incentives, overtime, and so on. Fixed pay incentives are paid to employees at a predetermined amount with certainty, for example employee incentives are paid annually five times the amount of the basic salary. The application of the fixed pay system was found to be poorly responded to by employees (Cadsby, Song, and Tapon 2007)

Pay for performance incentive system

Pay for performance incentive system is a scheme of providing incentives to employees related to receiving lower principal payments but receiving rewards for bonuses based on the achievement of production or other targets. Schemes like this can help increase employee productivity. As well as being the main incentive for increasing productivity and introducing the concept of unit work, performance-based incentive schemes also reduce the fear of favoritism and make workers' expectations clear. That is, what the employer wants, is what the employee can do.

Key Performance Indicator (KPI)

Key Performance Indicators (KPI) are measurable steps that are generally carried out by companies in measuring the performance of personnel or the company as a whole from time to time (Velimirović, Velimirović, and Stanković 2011). The main purpose of KPI is to improve the company's performance at the strategic and operational levels. More specifically, KPIs can be used to:

1. Improve employees' understanding of the expectations of the company's management.

2. Assess and evaluate the performance of each employee.

3. Become a valuable parameter for companies to create a more objective system of reward and punishment.

RESEARCH METHOD

This study is a quantitative study that empirically examines differences in project performance before and after the implementation of a project performance-based incentive system at one of the state-owned construction companies in Indonesia, PT PP (Persero) Tbk. The object of this research is project performance which is measured using the Key Performance Indicators (KPI) of each project before and after the implementation of the project performance-based employee incentive system.

The data used in this study is secondary data in the form of KPIs for each project two semesters before and two semesters after the implementation of a project performance-based employee incentive system at a state-owned company engaged in the construction sector in Indonesia to find out if there is a difference in average performance. the project before and after the implementation of the incentive system which will also show the effectiveness of the implementation of this system and whether the average performance after the implementation of this system is better than before the implementation of the project performance-based incentive system. Meanwhile, the source of the data used is obtained from documentation. There are 98 project KPIs used in this study. KPIs are evaluated every 6 months, so the data used are 196 KPIs before and 196 KPIs after the implementation of this system. The hypothesis was tested by the Wilcoxon Test with the SPSS program. The proposed hypothesis is:

Ho: The average project performance did not differ before and after the implementation of the project performance-based employee incentive system.

Ha: The average project performance is different and better after the implementation of the project performance-based employee incentive system.

RESULTS AND DISSCUSSION

The results of the calculation of the Wilcoxon test and descriptive statistics on the average Key Performance Indicators (KPI) of the project are shown in Tables 1 and 2 below:

Table 1 Calculation Results of Wilcoxon's Test
Test Statistics[a]

	SKPI2017_2 – SKPI2017_1	SKPI2018_2 – SKPI2018_1	Mean_SKPI2018 – Mean_SKPI2017
Z	-2.122[b]	-2.145[c]	-1.649[b]
Asymp. Sig. (2-tailed)	,034	,032	,099

Table 2 Descriptive Statistics of Key Performance Indicator (KPI) Data
Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
SKPI2017_1	98	26,4439	4,41362	14,50	36,00
SKPI2018_1	98	25,1163	5,48713	13,00	37,00
Mean_SKPI2017	98	26,0179	4,16703	16,25	36,50
SKPI2017_2	98	25,5918	4,52973	17,00	37,00
SKPI2018_2	98	25,4337	5,45631	13,50	37,00
Mean_SKPI2018	98	25,2648	5,41667	13,75	37,00

Table 1 shows that the results of the project KPI calculations for 2 semesters before and 2 semesters after the implementation of the project performance-based incentive system show the result asymp.sig (2 tailed) is 0.099 which if on one hand the probability becomes 0.0495. This means that the alternative hypothesis proposed in this study is acceptable and rejects the null hypothesis which means that

it is statistically proven that there is a difference in the average project performance before and after the implementation of the project performance-based incentive system.

Descriptive statistics of Key Performance Indicator (KPI) data for 98 projects before and after the implementation of the project performance-based incentive system which is evaluated every semester so that the

data used to compare the average performance is 2 semesters before and 2 semesters after the implementation of the project performance-based incentive system. Table 2 shows that the average performance before the implementation of the incentive system in semester 2 was lower than in semester 1, which means there was a decrease in performance. Meanwhile, after the implementation of the project performance-based incentive system, there was an increase in average performance from semester 1 to semester 2 even though the increase in average performance was not so great. This shows that there has been an increase in project performance shown by the KPI after the implementation of the project performance-based incentive system, which means that this system is indeed effective because it is proven to increase the average performance of its projects.

CONCLUSION

Based on the results of the study, it was concluded that the project performance-based incentive system was proven to be effective because there was an increase in the average project performance from before the implementation of this system. The results of hypothesis testing using a one-sided Wilcoxon paired sample test with a significance level of 5% prove that there is a significant difference in the average project performance before and after the implementation of a project performance-based incentive system with a level of This provides new evidence, especially related to the incentive system in companies the construction sector is related to the pros and cons of implementing this system so that not many construction companies have implemented this incentive system.

This study only uses the Key Performance Indicators (KPI) of each project to analyze the effectiveness of the implementation of the project performance-based employee incentive system, because the purpose of implementing this system is to motivate employees to work in accordance with the overall company goals and for construction companies, performance the whole company is highly dependent on the performance of each of its projects. The limited amount of data used may affect the results of the study so that further research can use many companies as a sample of companies that have implemented this incentive system. In addition, other variables that may also affect project performance such as employee perceptions of the effectiveness of project performance-based employee incentive systems and employee motivation can be added to strengthen the results of research in this area.
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