

## WORK SYSTEM ASPECTS ASSOCIATED WITH PRODUCTIVITY OF RAILWAY STATION FACILITY INSPECTION OFFICERS IN KISARAN

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### Abstract

Work productivity is influenced by various factors, one of which is an effective work system. A good work system can provide a sense of security and comfort for workers. This study aims to analyze the relationship between work systems consisting of work motivation, work materials and productivity of facility inspection officers at the Kisaran Railway Station. This study used a quantitative method with a cross-sectional approach. The study population consisted of 43 railway station facility inspectors, with the sampling technique using total sampling. The research instrument was a questionnaire covering three main variables: work motivation (10 questions), work materials (9 questions), and work productivity (9 questions). Data analysis was conducted using multiple linear regression tests. The results of this study concluded that work motivation has no effect on work productivity. Work materials have a positive effect on work productivity. Highly motivated employees will strive to achieve good work productivity and actively contribute to achieving organizational goals.

Keywords: *Work Materials, Motivation, Productivity*

### INTRODUCTION

The capability of individuals or groups to create goods and provide services qualitatively and quantitatively is known as work productivity (Mahawati et al., 2021). Companies that improve their work systems can show increased efficiency and productivity. Conversely, a decrease in productivity can be caused by workers who do not comply with work procedures or company conditions that are not in accordance with standard work procedures. The work system is a set of components that interact with technology in the organizational system and work system to increase productivity. These components are equipment and machinery, organizational conditions, motivation at work, physical environment, social environment, and individual characteristics (Darmawan & Ghazy, 2022). There are various factors that can affect employee productivity; these include education level, training, skills, discipline, attitude, work ethics, encouragement, work environment, production facilities, and health. Therefore, work productivity is very important and must be considered. Low morale and the use of time that is not in accordance with company goals are the causes of low productivity. Employees are often lazy or even corrupt working hours (Averina & Widagda, 2021).

Despite Indonesia's abundant labor resources, the country's worker productivity still needs improvement. This is because, when compared to other countries in the ASEAN region, Indonesia's labor productivity level ranks fifth, with each worker earning \$26,328 in 2023. Nevertheless, labor productivity in Indonesia continues to experience a positive increase. Based on data from the Indonesian Ministry of Manpower in 2024, labor productivity in Indonesia has consistently grown every year, except in 2020 when the COVID-19 pandemic began to hit. In 2022, both workers and companies managed to recover from the impact of the pandemic, which can be seen from the level of productivity that was finally able to exceed the pre-pandemic figure (Hanri & Sholihah, 2024).

An optimal work system must at least be able to provide a sense of security and comfort for workers in carrying out their duties, because this is one of the factors that affect work productivity (Putri et al., 2021). Improvements to the company's work system can show an increase in efficiency and productivity. Conversely, a decrease in productivity can be caused by workers who do not comply with work procedures or company conditions that are not in accordance with standard work procedures (M.F.R & A, 2023). The amount of output produced by an employee during their work can be used to measure the productivity of an employee. If an employee can produce products in accordance with the targets set by the company with a performance assessment per year, then the employee is considered productive (Trisnawaty & Parwoto, 2021). To assess work productivity, there are three main criteria: work enthusiasm, work methods, and work results (Wahyuningsih, 2018). If employees can reach their best level of ability, the company's productivity can function properly (Sukardi, 2021). Workers are the main drivers of

a company, which depends on its work system (Santir & Ardiana, 2020), because it will have an impact on reducing work productivity, employees must ensure that the employee work system is implemented correctly (Anggoro et al., 2022).

Railway stations need the best workers because they are state-owned companies that provide public transportation. Work performance and productivity play a crucial role in achieving the goals of service companies. To obtain good performance, companies must be able to establish an effective work system for individuals and for company operations (Manurung & Gilang, 2018). Sub-optimal work system factors will have an impact on workers who work on the production line or company. These workers spend a lot of time on site and have to work every day for 8 hours. Labor productivity can be influenced by workload, work comfort, work environment and also related to work duration factors.

Research conducted by Aziz in 2022 with the title "The Effect of Work Systems and Work Procedures on the Level of Work Productivity of Employees of the Health Office of Empat Lawang Regency" showed that work systems and procedures have a positive or strong impact on employee productivity (Aziz et al., 2022). Furthermore, Hutabarat 2023 conducted a study entitled Work Systems, Work Procedures, and Career Development on Employee Productivity of PTPN III. The results showed that work systems, work procedures, and career development had a positive and significant impact on the work productivity of PTPN III employees (Hutabarat et al., 2023).

Train stations are one of the most crowded transportation locations. Officers at the train station have an important role in ensuring smooth operations, including passenger services, train schedule arrangements, ticketing arrangements and supervision of train affairs. The results of observations made at the Kisaran Railway Station train inspection officers have a standard work duration of 8 hours per shift, with an alternating work system of morning, afternoon and night shifts, some officers often change their work shift schedule because they want to pursue holidays such as long shifts or holiday changes with other fellow officers, this often results in officers lacking rest so that they are sleepy and tired at work, even causing illness due to overtime work. Railway inspection officers do a lot of inspection work visually rather than using measuring instruments, so when officers experience drowsiness and fatigue it can result in inspection negligence that is not in accordance with operational standards.

The consequences of these circumstances can reduce work effectiveness and efficiency, which in turn can have an impact on productivity. If this continues, it will certainly have a negative impact on the organization and the employees themselves, especially since work productivity will directly affect the achievement of organizational goals and decrease the sense of trust from the community (Putra & Sobandi, 2019). Referring to the formulation of the problem that has been conveyed, this study aims to identify the work system related to the productivity of facility inspectors at the Kisaran Railway Station.

## **METHOD**

This study uses a quantitative method with a cross-sectional approach design that aims to identify various aspects of the work system related to productivity. This research was conducted at the train station in January 2025. This study involved all railway station facility inspectors as the population, with a total of 43 respondents. The sampling technique was carried out using the total sampling method. The instruments used were work motivation questionnaire from Pamungkas (2021) and work material questionnaire from Patara (2022) and work productivity. The work motivation questionnaire consists of 10 questions with answers using a Likert scale. The work motivation category consists of low work motivation (score 10-23), medium (score 24-36), high (score 37-50). The work material questionnaire consists of 9 questions with categories of poor (score 9-27), good (score 28-45). The work productivity questionnaire consists of 9 questions with answers using a Likert scale. The category of work productivity consists of less good (score 9-27), good (score 28-45). The data analysis technique in this study used multiple linear regression tests. Data were analyzed using SPSS to test the relationship between work motivation and work materials with the work productivity of railway facility inspection officers at Kisaran station.

## RESULTS AND DISCUSSION

Frequency distribution of characteristics related to age, length of service, and education level.

**Table 1.** Frequency distribution of respondent characteristics

	Variables	n	Percentage
Age	<b>Age</b>		
	Mean: 30 Med: 29 Mod: 25 Min: 23 Max: 40		
	<b>Length of Service</b>		
	1 Year - 5 Years	11	25,6%
	6 Years - 10 Years	21	48,8%
	>10 Years	11	25,6%
	<b>Education</b>		
	High school	23	53,5%
	Diploma	17	39,5%
	Bachelor	3	7,0%
	<b>Total</b>	<b>43</b>	<b>100%</b>
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Table 1 shows the age level of train inspectors who were respondents at Kisaran Railway Station. The table above shows that the age of officers at the Kisaran Railway Station is 23 years old (youngest age) and 40 years old (oldest age), with the highest number of respondents being 30 years old.

### Length of Service

Based on table 1, it is known that most of the respondents who were at the Railway Station in the period of 6 years - 10 years were 21 people (48.8%) and the longest working officers were in the period > 10 years as many as 11 people (25.6%) and respondents with a short service period of 1 year - 5 years were 11 people (25.6%).

### Education

Based on table 1, most respondents have a high school education level, with a total of 23 people. (53.5%) and those with a Diploma education were 17 people (39.5) and those with a Bachelor's degree were 3 people (7%).

**Table 2.** Normality Test  
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		43
Normal Parameters <sup>a,b</sup>	Mean	0E-7
	Std. Deviation	2.59811230
Most Extreme Differences	Absolute	.074
	Positive	.059
	Negative	-.074
Kolmogorov-Smirnov	Z	.487
Asymp. Sig. (2-tailed)		.972

- a. Test distribution is Normal.
- b. Calculated from data.

Source: Primary data processed, 2025

In table 2. kolmogorov-smirnov test, the output results obtained asymp. sig. (2-tailed) of 0.972 or > 0.05, indicating that the significant above 0.05 the data is normally distributed.

**Table 3.** Analisis Regresi Linear Berganda

Ind.	Dep.	Unstand. Ceff.	t	Sig.	Adj. R Square
		B			
<b>Work Motivation</b>	Produktivty	0,099	0,646	0,522	0,460
<b>Work Materials</b>		0,645	3,964	0,000	

Source: Primary data processed, 2025

Table 3 shows the results of hypothesis testing. Judging from the table, H1 testing is rejected with a sig value of 0.522 or >0.05, but H2 is accepted with a sig value of 0.000 or <0.05. The magnitude of the influence of work motivation and work materials on officer work productivity is 46%, the remaining 54% is explained by variables outside the scope of this study.

### **Relationship between Work Motivation and Work Productivity**

The results of multiple linear regression analysis, work motivation does not affect employee work productivity. This result contradicts a study conducted by Kurniawan (2023), which states that there is a relationship between work motivation and work productivity (p-value = 0.000), so the need for stations to create a work environment that motivates officers to increase their motivation towards work (Kurniawan et al., 2023). However, in line with Parashakti's research in 2021, it is assumed that employee motivation does not have a significant impact on their work productivity with a p-value = 0.087. This is because they believe that motivation does not guarantee or strengthen their productivity at work (Parashakti & Noviyanti, 2021). The work environment of an institution or organization determines work motivation. Fundamentally, humans tend to want positive things. Therefore, the motivation or drive that makes a person carry out their work depends on the expectations they want to achieve in the future. If these expectations are realized, individuals will be more motivated in carrying out their work (Agata et al., 2023).

This research is also in line with a study conducted by Waskito, which shows that work motivation does not positively and significantly affect productivity (p=0.205). Furthermore, motivation theory proposed by Herzberg (1959) and Vroom (1964) reveals that work motivation has a significant effect on employee performance in the work environment. Herzberg stated that factors such as recognition, responsibility, and opportunities for self-development can increase employees' intrinsic motivation which in turn encourages better work productivity. Meanwhile, Vroom's (1964) expectancy theory states that when employees feel that their efforts will produce results that are valued and appreciated, their motivation will increase (Waskito & Wulandari, 2022). Jufrizen revealed that work motivation can come from other people, such as coworkers, superiors, and subordinates. In addition, companies can also provide health insurance as a form of support, compensation, and appreciation for good work. The greater the enthusiasm of employees in carrying out their duties, the better the work achievements will be. An employee can complete their work effectively, but there is a possibility of the opposite. If the work is done well and completed thoroughly, the company's goals can be achieved. However, if the results are not optimal, the company needs to find out why (Jufrizen & Hadi, 2021).

This research contradicts a study conducted by Sukardi (2021), which revealed that employee motivation has a major impact on their productivity (Sukardi, 2021). Winarno's research findings indicated a relationship between work productivity and work motivation (p-value = 0.021). The majority of respondents showed low work motivation, possibly because they did not receive support from friends, leaders, or family at work, so they were less eager to do their jobs (Winarno & Isnainy, 2022). Based on researchers' observations, in an effort to increase productivity, companies must pay attention to employee welfare and motivation, for example by providing incentives, awards, and career development opportunities. Highly motivated employees will strive to provide the best performance and actively contribute to achieving organizational goals.

### **The Relationship between Work Materials and Work Productivity**

Based on the results of multiple linear regression analysis which shows a positive and significant relationship between work material variables and the work productivity of the Kisaran Railway Station facility inspectors. The results of this study indicate that work materials do not have a serious impact on work productivity, where with the lack of existing work materials but the productivity of officers remains good in carrying out their work. Work materials are work tools or work equipment resources including equipment, materials, and infrastructure that can affect the implementation of tasks by considering the utilization of work facilities, physical and intellectual quality, and methods of implementation (Seri et al., 2022). This finding is in line with Rohani's research, which states that the results of the chi-square test show a value of  $0.000 < 0.05$ , so there is a significant correlation between work facilities and employee performance at the Faculty of Medicine, Lambung Mangkurat University Banjarmasin in 2021 (Rohani et al., 2021).

Pratiwi's research results show that work facilities increase the productivity of the production division of PT Multi Elektrik Sejahtrido. One form of service that companies can provide for their employees is the provision of work facilities, which allow them to support their work, help complete their tasks, feel protected and comfortable while working, and increase their morale. All of this contributes to increasing work productivity and achieving company goals (Pratiwi & Permatasari, 2022). Sabri argues that work facilities are facilities, devices, or tools that function to support the smooth running of company activities and to make workers feel comfortable and at home in the workplace. Therefore, companies must provide work facilities that meet the requirements so that employees feel comfortable and at home in the workplace (Sabri & Susanti, 2021). Research conducted by Jufrizen revealed that work facilities have a positive and significant impact on employee productivity. These results indicate that when work facilities are adequate, employee productivity also increases. In addition, the significant value obtained confirms that work facilities act as one of the supporting factors in increasing employee productivity (Jufrizen & Hadi, 2021). However, this research is not in line with Afdilla's study (2023), which revealed that work facilities do not have a significant or positive effect on employee productivity at Sinar Group Surabaya (Afdilla, 2023).

The results of Seri's research (2022) indicate that work facilities have a positive and significant effect on employee productivity at PT Kencana Andalan Nusantara with a t-test that has a value with a significance of  $0.010 < 0.05$ . Strict control and security to maximize costs incurred make employees feel uncomfortable while working because they have to wait for other colleagues to use the facilities after them (Seri et al., 2022). According to research conducted by Sulistiani (2023), work facilities affect productivity at PT Tri Banyan Tirta (Sulistiani et al., 2023).

### **CONCLUSION**

The results of this study concluded that work motivation has no effect on work productivity. Work materials have a positive effect on work productivity. The results of this study are expected in an effort to increase productivity, companies must pay attention to employee welfare and motivation, for example by providing incentives, awards, and career development opportunities, as well as good and adequate work materials. Highly motivated employees will strive to provide the best performance and actively contribute to achieving organizational goals.

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