



Effect of Occupational Health and Safety, and Work Environment on Employee Performance with Working Satisfaction as Mediation Variable

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ABSTRACT

Objective - This study aims to determine and analyze the influence of Occupational Health and Safety, and the Working Environment on Employee Performance with Job Satisfaction as a mediating variable in PT. Kereta Api Indonesia (Persero) with sample on DAOP I Jakarta.

Methodology/Technique - The study population numbered 292 employees and 75 respondents be adopted as a sample of the study. Techniques of analysis using a statistical test structural equation model-based variance (SmartPLS).

Findings – The results showed that, (1) Occupational Health and Safety had no effect on Job Satisfaction and Employee Performance, (2) the Work Environment had a positive and significant effect on Job Satisfaction and Employee Performance (3) Job Satisfaction has a positive and significant effect on Employee Performance, (4) Occupational Health and Safety has no effect on Employee Performance even though through Job Satisfaction mediation, (5) the Work Environment has a positive and significant effect on Employee Performance through mediation of Job Satisfaction, (6) Occupational Health and Safety, and the Work Environment simultaneously have a positive and significant effect on Job Satisfaction with the coefficient of determination, which is equal to 0,533, (7) Occupational Health and Safety, Work Environment, and Job Satisfaction simultaneously have a positive effect and significant to Employee Performance with coefficient of determination, which is equal to 0,890.

Novelty - The company is expected to provide adequate rest periods, maintain the nutritional intake of its employees by providing healthy food, provide educational scholarships for further levels for employees, safeguard the work environment from chemical hazards and other hazards, and give positive motivation to the employees.

Type of Paper: Empirical.

JEL Classification: J20, J24, J28.

Keywords: Occupational Health and Safety, Work Environment, Job Satisfaction, Employee Performance

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1. Introduction

Transportation is an activity of the movement of goods or people from one place to another. Transport has an important role in supporting growth, stabilization, as well as driving and nurturing national development. In transportation activities, we often encounter one of the problems of such activity, namely the transportation accident. It is inversely proportional to one of society's expectations regarding the ideal transport activity, namely zero accident.

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Based on the results of the investigation the National Transportation Safety Committee (NTSC/KNKT, 2018), during the year 2017 and the land transportation sub-sector shipping transportation accidents occupy the highest number of cases compared to the previous six years in 2011. PT. Kereta Api Indonesia (Persero) is a State-Owned Enterprises (SOEs) which provides passenger and freight services via landline. The company's priority in ensuring the safety of passengers and employees still cannot be realized 100%. The following are data on Indonesian railroad accidents shown in Figure 1:

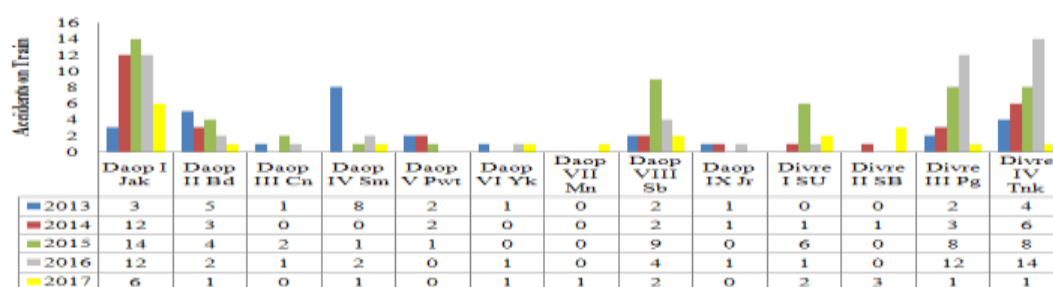


Figure 1. Number of Accidents Railway per DAOP / Drive 2013-2017

Based on the figure 1, DAOP I Jakarta occupies the top position in the number of railway accidents within the last five years. DAOP I Jakarta constitute regional operations with an area stretching from Merak station in Banten to Cikampek station in West Java. The train managed by DAOP I Jakarta crosses stations in the Jakarta area, Banten, Bogor, Depok, Sukabumi, and Karawang. DAOP I Jakarta is also the only one that serves the trip DAOP Train Commuter Jabodetabek (operated by PT. KAI Commuter Jabodetabek). In addition, at this time DAOP I Jakarta train also operates Railink. The train accident can be caused by several factors. Figure 2 will show the percentage of the factors that cause a train wreck in Indonesia:

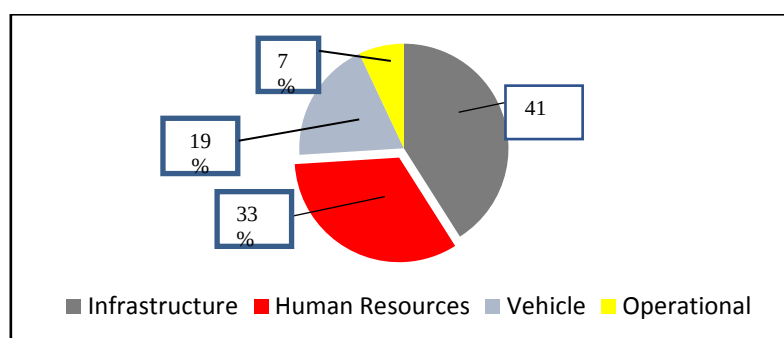


Figure 2. Percentage of Major Accident Cause Factors Indonesian Railways Year 2010 – 2016

Source: Data base of the National Transportation Safety Committee (NTSC/KNKT), 2017.

Based on Figure 2 above, the most second cause of train crash is from the perspective of human resource. Inside the company, every employee needs to be managed properly, thus time, energy, and ability to be used optimally (Fathoni, 2006). Employee performance in companies affected by several factors, such as occupational health and safety, and job training (Purnama & Soesatya, 2016). Besides, the performance of employees is also affected by labor conflicts, the stress of work, and the working environment (Riana, Dinna., & Valentyne, 2016). Basically, one of the causes of workplace accidents could be reduced if the protection of health and safety can be applied by the company (Yusuf, Eliyana & Sari, 2012). In addition, the work environment factors also affect the performance of the employee, such as the location of the workplace, working hours, job security, noise, and technology support (Mullins & Christy, 2013). The results of in-

depths interviews with Indonesian train crew (driver and assistant driver train engineer), showed that in fact the company is optimal in ensuring the factors related to employee performance, but there are two factors that still need to be optimized, the first is the occupational health and safety factor, and the work environment.

While in-depth interview on the Human Resources PT. Kereta Api Indonesia (Persero) DAOP I Jakarta resulted in the conclusion that, at this time the employee's performance does not decline significantly, but there are some employees who are not satisfied with the work and can indirectly affect the performance of employees. This is shown by the phenomenon of early retirement, employee turnover, absence of employees by reason of illness, lack of discipline of working time, as well as corporate profits decline in 2016, which amounted to 42% (PT. KAI, 2017). Based on the above background, it is necessary to research employee performance factors, namely occupational health and safety, work environment, as well as the job satisfaction. Thus, this study entitled "Effect of Occupational Health and Safety, and the Working Environment on Employee Performance with Job Satisfaction as Mediation Variable Survey: In PT. Kereta Api Indonesia, Persero.

2. Theoretical background

2.1 Occupational Health and Safety

Occupational Health and Safety is an approach to the prevention of accidents and illnesses caused by work (International Labour Organization, 2013). Occupational health and safety refers to a physiological and physical condition which includes diseases and work accidents such as loss of life, injury, and so on (Rivai & Sagala, 2013). Factors that affect the occupational health and safety according Sedamaryati (2011), namely hygiene, drinking water and health, neatness work, workplace, workspace, seating, ventilation, lighting, colors and noise, prevention of accidents and fires, nutrition, heating and freezing. According to Mangkunegara (2013), the purpose of occupational health and safety program are to be guaranteed occupational health and safety on a physically, socially, and psychologically, all equipment and work equipment used as well as possible and as effectively as possible, avoid disruption of occupational health and safety caused by the working environment, and every employee feel secure in their work and to increased harmony and work participation.

2.2 Work Environment

The working environment is an environment of a worker doing his job (Luthans, 2011). The working environment is everything that is outside of the boundaries of organizations (Robbins, 1994). Furthermore, work environment is a set of facilities and infrastructure, communications, and technology support that can support employees in work (Mullins & Christy, 2013). Based on the above opinion, it can be concluded that the work environment is everything such as facilities and infrastructure that are inside or outside the organization that can provide the potential for the performance of employees at work. Supportive work environment can improve employee performance, but if the work environment is considered insufficient, it can degrade the performance of employees. Factors that affect the working environment according to Sedarmayanti (2009), namely color, cleanliness, lighting, air, type of security, noise, and spatial. Benefits of working environment according to Prawirosentono (2008) minimise the possibility of accidents resulting in losses, optimize the use of equipment and raw materials more productively and efficiently, and create favorable conditions for the convenience of work, thus raising the level of efficient work.

2.3 Job Satisfaction

Job satisfaction is an unpleasant feeling, sometimes described by employees when performing their jobs. (Gibson, John & James, 2008). Job satisfaction is an individual's emotional response on various aspects of

the job. Furthermore, job satisfaction is a general attitude of an individual to the job he is doing (Robbins & Judge, 2007). Based on some of the above opinions, it can be concluded that job satisfaction is an unpleasant feeling whether or not the work is perceived by each individual in his job. Factors that influence job satisfaction according to Luthans (2006), which is the job itself, compensation, promotion, supervision, co-workers, and working conditions.

2.4 Employee Performance

Employee performance is a work process that has been carried out a by employees in a certain period, one of which is by using the ideas and efforts to achieve business objectives of the company (Firmindari, 2014). Employee performance is the result of the work accomplished by someone with the requirements of the job (Bangun, 2012). Furthermore, employee performance is a result of employee benefits earned in a particular period (Fahmi, 2013). Based on some of the above definition, it can be concluded that the employee's performance is a result of work produced by individual employees or groups in carrying out their responsibilities in an organization that is done in a specific period. Factors that affect the performance of employees according to Gibson et al (2008), the individual factors, psychological factors, and organizational factors. The purpose of the measurement of employee performance by Sinambela (2012) helps to improve the performance of that activity focused on the goals and objectives of the work unit program, allocation of resources and decision-making, and realization of improved institutional communication.

2.5 Research Model

Frame of mind is a picture of the relationship variables in the study described by way of thinking according to the logical framework (Idrus, 2009). Theories about the variables in this study are supported by books and journals relating to all the variables. The following Figure 3 is the research model of this study.

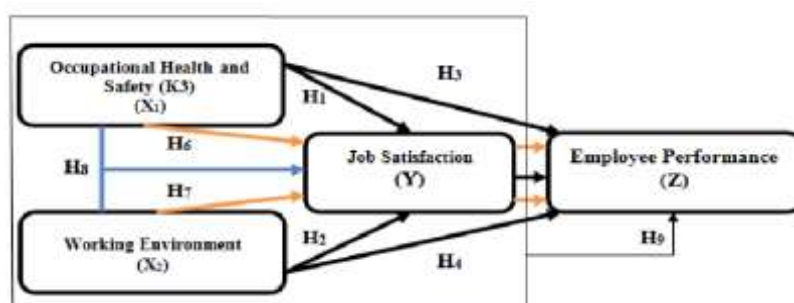


Figure 3. Research Model

Based on the study of theory, results of previous studies, and research model, then the hypothesis proposed in this study as follows:

- H1: Occupational health and safety has effect on job satisfaction.
- H2: Work environment has effect on job satisfaction.
- H3: Occupational health and safety has effect on employee performance.
- H4: Work environment has effect on employee performance.
- H5: Job satisfaction has effect on employee performance.
- H6: Occupational health and safety has effect on employee performance through job satisfaction.
- H7: Work environment has effect on employee performance through job satisfaction.
- H8: Occupational health and safety and work environment simultaneously have effect on job satisfaction

H9: Occupational health and safety, work environment, and job satisfaction simultaneously have effect on employee performance.

3. Research methodology

The type of this study is quantitative research using Partial Least Square (PLS) (variance based Structural Equation Model (SEM)). This study aims to examine hypothesis proposed by using a statistical test tool (Sugiyono, 2013). Descriptive method serves to describe or give an overview of the object under study through data or samples that have been collected as they are (Sugiyono, 2013). Data used in this study are primary and secondary data. Primary data obtained by observation, interviews, and questionnaires. The questionnaire from each variable consists of 16 statements. While the secondary data obtained by collecting supporting data through literature. The population of this study is the total number of train crew on PT. Kereta Api Indonesia (Persero) with sample on DAOP I Jakarta, amounting to 292 employees. The sampling technique of population in this study using Probability Simple Random Sampling technique, where sampling of a randomized study population by providing equal opportunities for the entire population to be chosen as respondents regardless of existing strata (Riadi, 2015). In order to facilitate the determination of the number of samples, this research uses sampling method using Formula Slovin (in Umar, 2001). Based on the calculations, the sample can be used as the respondents in this study as many as 75 respondents, or approximately 26% of the total population of the train crew in PT. Kereta Api (Persero) DAOP I Jakarta.

4. Results and discussion

Based on the result, the coefficient of determination in the first sub-structure is 0,533, meaning that the total effect of occupational health and safety, and the working environment on job satisfaction was 53,3% (moderate), and the remaining 46,7% is influenced by other variables. Value of R Square in the second sub-structure is 0,890, that means the total effect of occupational health and safety, work environment and job satisfaction on the performance of employees amounted to 89% (very strong), and the remaining 11% is influenced by other variables.

Table 1. Total Effect

Path	Direct Effects	Indirect Effects	Total Effects
Occupational Health and Safety -> Job Satisfaction -> Performance	0,017	0,004	0,021
Work Environment -> Job Satisfaction -> Performance	0,757	0,168	0,925

Table 1 shows that the effect of occupational health and safety on performance of employees increased through the intervening variables (job satisfaction). And also, the same result for work environment variable.

Hypothesis Testing and Discussion

The following is a table of hypothetical test results:

Table 2. t-statistics and p-values

	t-statistic (> 1,96)	p-values (<0,05)	Information
Partial			

	t-statistic (> 1,96)	p-values (<0,05)	Information
Occupational Health and Safety -> Job Satisfaction	0,190	0,849	Not significant
Work Environment -> Job Satisfaction	8,314	0,000	Significant
Occupational Health and Safety -> Employee Performance	0,457	0.648	Not significant
Work Environment -> Employee Performance	6,364	0,000	Significant
Job Satisfaction -> Employee Performance	1,992	0,048	Significant
Simultaneous			
Occupational Health and Safety -> Job Satisfaction -> Employee Performance	0,103	0,918	Not significant
Work Environment -> Job Satisfaction -> Employee Performance	2,058	0,041	Significant

Occupational Health and Safety has no effect on job satisfaction. In other words, the crew of the train at PT. Kereta Api Indonesia (Persero) DAOP I Jakarta, did not consider the occupational health and safety factor as factors that can affect employee satisfaction. Results were consistent with previous studies conducted by Ramadania, Myrna & Winata (2017). But the results of these studies are not consistent with research conducted by Jacob, Tewal & Tulung (2017).

Work environment positive and significant effect on job satisfaction. That is, the work environment can provide its effect on employee job satisfaction, especially on the crew of the train at PT. Kereta Api Indonesia (Persero) DAOP I Jakarta, and if the work environment increases, the job satisfaction, the better. Results were consistent with previous studies conducted by Hanafi (2017). But inconsistent with Ramadania, Myrna & Winata (2017).

Occupational Health and Safety has no effect on the performance of employees. In other words, the crew of the train at PT. Kereta Api Indonesia (Persero) DAOP I Jakarta, did not consider the occupational health and safety factor as factors that can affect the performance of the employee. Results were consistent with previous studies conducted by Nisak, Isharujadi & Murwani (2017). But they are not consistent with the results of Juwita (2017), and Yusuf et al. (2012).

Work environment has a positive and significant effect on employee performance. That is, the work environment can provide influence on employee performance, especially on the crew of the train at PT. Kereta Api Indonesia (Persero) DAOP I Jakarta, and if the work environment increases, the employee's performance will be better. Results were consistent with previous studies conducted by Juwita (2017). But the results of these studies are not consistent with the research Hanafi (2017).

Job satisfaction and a significant positive effect on employee performance. This means that job satisfaction can provide influence on employee performance, especially on the crew of the train at PT. Kereta Api Indonesia (Persero) DAOP I Jakarta, and if the job satisfaction increases, the employee's performance will be better although small / weak. Results were consistent with previous studies conducted by Hanafi (2017) and Mintje, Adolgina & Lumitang (2017).

Occupational Health and Safety has no effect on the performance of employees despite having been mediated by job satisfaction. This means that occupational health and safety is an indirect effect on employee performance despite having been mediated by job satisfaction. Results were not consistent with a previous study conducted by Juwita (2017).

Work environment has significant positive effect on employee performance through the mediation of job satisfaction. In other words, job satisfaction will strengthen the work environment influence on employee performance. Results of these studies are consistent with the results of research Juwita (2017) and Hanafi (2017).

Occupational Health and Safety, and the work environment simultaneously have a positive and significant impact on job satisfaction. That is, if health occupational and safety is integrated with the work environment, it will give the effect or greater synergy to job satisfaction. Results of these studies are consistent with the results of research Juwita (2017).

Occupational Health and Safety, work environment and job satisfaction simultaneously positive and significant effect on employee performance. That is, if occupational health and safety is integrated with the work environment and job satisfaction, it will provide synergy effect or higher on employee performance. Researchers did not find the results of previous studies with the same simultaneous variables, but the research still close to the consistency of the results of Nisak, Isharijadi & Murwani (2017), which reveals that occupational health and safety, and the working environment have a significant effect on employee performance. Mintje, Adolfini & Lumintang (2017) states that occupational health and safety, and job satisfaction simultaneously provide positive and significant effect on employee performance.

5. Conclusions

Occupational Health and Safety had no effect on Job Satisfaction and Employee Performance. Work Environment had a positive and significant effect on Job Satisfaction and Employee Performance. Job Satisfaction has a positive and significant effect on Employee Performance. Occupational Health and Safety has no effect on Employee Performance even though through Job Satisfaction mediation. Work Environment has a positive and significant effect on Employee Performance through mediation of Job Satisfaction. Occupational Health and Safety, and the Work Environment simultaneously have a positive and significant effect on Job Satisfaction with the coefficient of determination. Occupational Health and Safety, Work Environment, and Job Satisfaction simultaneously have a positive effect on, and is significant to Employee Performance with coefficient of determination. The company is expected to provide medical officers on every train journey. It is considered very necessary, because if during the train journey there are employees or passengers suddenly ill, then the presence of medical personnel are expected to provide first aid without having to wait for assistance at the nearest train station. The company should provide and maximize the tools and support machine railways, such as a hearing protection, dust protection, application detection technology fires and earthquakes, the application of technology train control system as a whole in each track railroad crossings, availability of double track railroad crossings, as well as maximizing the function of the usefulness of the system of railway signaling technology to increase the safety of rail travel. With the guarantee of high security, then employees would feel more satisfied, and are expected to contribute their best to improve their performance. The company is expected to provide adequate rest periods, maintain the nutritional intake of its employees by providing healthy food, provide educational scholarships for further levels for employees, safeguard the work environment from chemical hazards and other hazards, and give positive motivation to the employees.

References

- Wake up, O. (To 12). West Sumatra Management He is Human, Jakarta: Pete. I used to read letters.
- Fahmi, I. (2013). *Performance Management, Theory*. Bandung Alfabeta.
- Fathoni, A. (2019). Organization and human resource management.
- Firmandari, N. (2014). The Effect of Compensation on Employee Performance with Work Motivation as a Moderating Variable (Study at Bank Syariah Mandiri Yogyakarta Branch Office). Exhibition, 9(1).

- Gibson, J. L., Ivancevich, J. M., & Donnelly, J. H. P. (2008). *Organization, and Structure of the Translation Process Volume 2*. Jakarta: Erlangga.
- Hanafi, B.D. (2017). The Influence of Motivation and Work Environment on Employee Performance with Job Satisfaction as a Mediation Variable at PT. BNI Life Insurance. *Journal of Economics and Business Education*, 5(1), 73-89.
- Idrus, M. (2009). *Social science research methods*.
- International Labor Organization. (2013). *Occupational Health and Safety (K3) Means for Productivity*. Jakarta: International Labor Organization.
- Jacob, P. A., Tewal, B., & Tulung, J. E. (2018). The Influence of Work Safety, Occupational Health and Quality of Work Life Programs on Job Satisfaction of Employees of PT PLN (Persero) North Sulawesi Region Manado area. *EMBA Journal: Journal of Economic Research, Management, Business and Accounting*, 5(3).
- Juwita, K. (2017). Job Satisfaction Mediates Safety and Job Satisfaction and Work Environment on Employee Performance. *Academics*, 15(1), 22-31.
- Luthans, F. (2006). *Organizational behavior*. Edition Ten. Yogyakarta: PT. Andi.
- Luthans, F. (2011). *Organizational Behavior: An Evidence-Based approach*. New York: The McGraw-Hill Companies.
- Mangkunegara, A. A. P. (2016). *Corporate human resource management*. PT. Remaja Rosdakarya.
- Mintje, T., & Lumintang, G. G. (2017). Occupational Safety and Health (K3), Job Satisfaction Its Influence on The Performance of Employees Maintenance Project Pt. Meares Soputan Mining. *Emba Journal: Journal of Economic Research, Management, Business and Accounting*, 5(3).
- j Mullins, L., & Christy, G. (2013). *Management & Organisational Behaviour*. Pearson Education.
- Nisak, D. K., Isharijadi, I., & Murwani, J. (2017). The Influence of K3 (Occupational Health and Safety) And Work Environment on Employee Performance at Pt Pln (Persero) Ponorogo Area. In *FIPA: Scientific Forum for Accounting Education* (Vol. 5, No. 1).
- Prawirosentono, S. (1999). *Human resource management: employee performance policies: tips for building a competitive organization ahead of world free trade*. Publishing Agency of the Faculty of Economics (BPFE).
- PT. KAI. (2017). *Annual Report PT. Kereta Api Indonesia (Persero) 2017*. Website PT. Indonesian Railways.
- Teguh Purnama, O. K. T. A. V. I. A. N. (2016). The Effect of Occupational Health and Safety and Occupational Training on The Performance of Employees of The Redrying & Threshing Unit Of Kareb Bojonegoro. *Journal Of Management Science* (Jim), 4(2).
- Ramadania, G., Myrna, S. & Winata, W. (2017). Influence of Work Environment, Individual Characteristics, Occupational Safety and Health, and Motivation on Employee Satisfaction at Office X
- Riadi, E. (2014). *Parametric & nonparametric statistical methods*. Tangerang: Independent Library.
- Riana, D., & Agatha, V. Y. (2016). The Influence of Work Conflict, Work Stress, and Work Environment on Employee Performance at Keris Plastic Bag Company Surakarta. *BHIRAWA*, 3(1), 1-8.
- Rivai, V., & Sagala, E. J. (2013). *Human Resources Management for Companies*. Jakarta: Rajagrafindo Persada.
- Robbins, S. P. (1994). *Organizational Theory Structure Design and Application*. Jakarta: Arcan.
- Robbins, S.P., & Judge, T.A. (2007). *Organizational behavior*. Jakarta: Four Salemba.
- Sedarmayanti, M. P. APU. 2009. *Human Resources and Work Productivity*. Bandung: *Mandar Maju Publisher*.
- Sedarmayanti, H. (2018). *Human Resource Management; Bureaucratic Reform and Civil Service Management. Aditama's reflection*.
- Sinambela, L. P. (2012). *Employee performance: Theory, measurement and implications*. Yogyakarta: Graha Ilmu.
- Sugiyono. (2013). *Business Research Methods*. Bandung: Alfabeta.
- Umar, H. (2001). *Research Methods for Business Thesis and Thesis*. Jakarta: PT. King Grafindo Persada.
- Yusuf, R.M., Eliyana, A., & Novita, O. (2012). Influence and Occupational Health to Performance as Intervantion Variable (Study on Production Employees at PT. Mahakarya Rotanindo, Gresik). *American Journal of Economics*, Special Issue, 136-140.