

PAPER • OPEN ACCESS

Effects of individual characteristics, occupational safety and health on employee performance of PT PLN (Persero) in Merauke regency

To cite this article: E L R Kore *et al* 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **235** 012047

View the [article online](#) for updates and enhancements.



IOP | ebooks™

Bringing you innovative digital publishing with leading voices to create your essential collection of books in STEM research.

Start exploring the **collection** - download the first chapter of every title for free.

Effects of individual characteristics, occupational safety and health on employee performance of PT PLN (Persero) in Merauke regency

E L R Kore¹, C N Kalalo¹, J J Kalalo², F Lamalewa¹

¹ Department of Management, Faculty of Economic and Business, University of Musamus, Merauke, Indonesia, 99611.

² Department of Law, Faculty of Law, University of Musamus, Merauke, Indonesia, 99611.

E-mail: lia_riani88@yahoo.com

Abstract. Workers or employees are dynamic production factors of human resources, and the success of a company or organization is inseparable from the role of its human resources. The present research is aimed to analyze: (1) simultaneous effects of individual characteristics, occupational safety and health on employee performance; and (2) partial effects of individual characteristics, occupational safety and health on the performance of PT PLN (Persero) employees in Merauke Regency. This research was conducted at PT PLN (Persero) Merauke Regency. This research was carried out using a descriptive method with a quantitative approach. The research population was all 108 employees who served as respondents. The sampling was performed through saturated samples. The data collection was conducted through observations, interviews, and documentation; while the data were analyzed using multiple linear regression analysis. The research results were based on the F test which obtained sig value of $= 0.000 < 0.05$, indicating that individual characteristics, occupational safety, and health simultaneously affect the performance of PT PLN (Persero) employees in Merauke Regency. Individual characteristics, occupational safety, and health partially affect the performance of PT PLN (Persero) employees in Merauke Regency.

1. Introduction

One source of problems encountered by the company comes from less optimal human resources within the company, causing the company productivity to decline and fail to reach the target. Such a thing requires particular attention, as it will affect achievement, dedication and loyalty and love of work and organization [1]. A manager must know how these differences affect the behavior and performance of his subordinates [2]. Individual characteristics are behaviors or characters within an employee, both positive and negative [3]. Apart from the individual characteristics of the employees to improve performance, there are also matters of occupational safety and health. In the view of Mangkunegara, occupational safety shows that it is safe or safe from suffering, damage or loss at work [4]. Occupational health shows condition free from physical, mental, emotional or pain is caused by the work environment [4]. The importance of occupational safety and health is for the employees to focus on their work, and the company or the organization will not only merely hire employees but also provide health insurance to workers or employees. The employee contribution is a tangible outcome that has quality and quantity



standards. In the opinion of Rivai, performance is the real behavior displayed by each person as work performance yielded by the employees, according to their role in the company [5]. This research aims to analyze: (1) simultaneous effects of individual characteristics, occupational safety and health on employee performance; and (2) partial effects of individual characteristics, occupational safety and health on the performance of PT PLN (Persero) employees in Merauke Regency.

2. Methods

The present research was conducted using survey design in the form of descriptive study with a quantitative approach on the data from the questionnaires, and the respondents were asked to give their response to the statements/ questions. This research was carried out at PT. PLN (Persero) in Merauke Regency. The population in this study was called saturated sampling. It meant the sample represented the total population because there were 108 employees of PT PLN (Persero) at Merauke Regency in total. The type of data used in this research was quantitative. Sources of data employed in this research were primary and secondary data. The data collection technique applied field research. It is the research which conducted a direct observation of the research location with the objective of obtaining primary data and essential information through observations and questionnaires. The list of questions and the method of data collection in this research used questionnaires. The data analysis method in this research was multiple linear regression analysis which used SPSS Version 20, in which the validity and reliability test was done beforehand. Multiple linear regression analysis was used to find out the extent of effects of independent variables, consisting of Individual Characteristics (X1), Occupational Safety (X2), and Occupational Health (X3) on Employee Performance in Merauke (Y).

3. Results

Descriptive analysis of research variables and indicators are categorized based on mean values. The score range is obtained by the following equation:

$$\text{Score range} = \frac{\text{highest score} - \text{lowest score}}{\text{number of clarification}}$$

The grouping and category of the average rating on the respondents can be seen in table 1.

Table 1. Category of Mean Value

No	Mean value	Category
1	1,00 average < 1,85	Strongly disagree / not very good
2	1,85 average < 2,65	Disagree / not good
3	2,65 average < 3,45	Unsure/good enough
4	3,45 average < 4,25	Agree / good
5	4,25 average 5,00	Strongly agree / very good

3.1. Description of individual characteristic variable

The average respondents' rating on the individual characteristic variable is 3.82, which falls into a good category. It indicates that the individual characteristics of PT PLN (Persero) employees in Merauke Regency are good.

3.2. Description of occupational safety variable

The average respondents' rating on occupational safety variable is 3.89, which falls into a good category. It indicates that occupational safety program prepared by PT PLN (Persero) in Merauke Regency is good.

3.3. Description of occupational health variable

The average respondents' rating on occupational health variable is 3.69, which falls into a good category. It indicates that PT PLN (Persero) in Merauke Regency has prepared a good occupational health program.

3.4. Description of employee performance variable

The average respondents' rating on employee performance variable is 3.80, which falls into a good category. It indicates that the performance of PT PLN (Persero) employees in Merauke Regency is good.

3.5 Multiple linear regression analysis

The result of t-test on the effect of individual's characteristic, occupational safety and health on employee performance is shown in table 2.

Table 2. T-test on the effects of individual's characteristics, occupational safety and health on employee performance

Variable	Unstandardized Coefficient	t	p
Constant	9.560	1.978	0.51
X1	0.304	2.628	0.10
X2	0.288	2.296	0.24
X3	0.266	2.105	0.38

Where the constant value is 9.560, the coefficient of effects of individual characteristics (X1) on employee performance (Y) is 0.304; the coefficient of effects of occupational safety (X2) on employee performance is 0.288, and the coefficient of effects of occupational health (X3) on employee performance is 0.266. Therefore, the dominant variable affects the employee performance of PT PLN (Persero) in Merauke Regency.

The t-test obtains the coefficient of the effects of individual characteristics on employee performance is 0.304 with a significant value of $0.010 < 0.05$. The results of this research show that individual characteristics have partial effects on employee performance. This result is because individual characteristics are something embedded in each employee, such as talent, creativity, ability, and others. Abilities as individual characteristics, such as intelligence, manual skills, traits, are a person's potential strength to take actions and be stable emotionally [6]. This research is in line with the research undertaken by Suswati, which demonstrates that individual characteristics have positive and significant effects on motivation and the performance of Midwives in Regional General Hospital in Tapal Kuda Region, East Java [7]. Another research concludes that despite a combination of several worker variables, such as age, gender, experience, time of observation, and interpersonal which have significantly affected the employee performance; there are no investigations which successfully indicate the effects of workplace condition on worker performance [8].

The t-test obtains the coefficient of occupational safety effects on employee performance is 0.288 with a significant value of $0.024 < 0.05$. It shows that occupational safety partially affects employee performance. It is because occupational safety is a safe condition perceived by employees in carrying out their duties and responsibilities as employees. Safety refers to the protection of the physical welfare, with the objective of preventing accidents or work-related injuries [9]. The results of this research are in line with Paramita's research, showing that occupational safety and health have significant effects on employee performance mediated by professional motivation variables [10].

The t-test obtains the coefficient of effects of occupational health to employee performance of 0.266 with a significant value of $0.038 < 0.05$. It shows that occupational health partially affects employee performance. It is because health is a factor supporting a company in working. With good health, employees will work well appropriately and ultimately benefit the company or organization, since the employees will be less likely to absent, work under a more pleasant environment, allowing the employees in overall to work longer. The present research is in line with the results of the study

conducted by Akpan [11] showed that effective health and safety management has a positive correlation in the improvement of organizational performance.

Table 3. F Test effects of individual characteristics, occupational safety, and health on employee performance

<i>Variable</i>	<i>Mean</i>	<i>R Square</i>	<i>p</i>
Performance	133.283	0.252	0.000

F test obtains the value of $\text{sig} = 0.000 < 0,05$. It demonstrates that the model of the multiple regression equation is fit to be used in analyzing the effects of individual characteristics, occupational safety, and health on the performance of PT PLN (Persero) employees in Merauke Regency. It shows that individual characteristics, occupational safety, and health simultaneously affect the performance of PT PLN (Persero) employees in Merauke Regency. The results of multiple regression analysis obtain a coefficient of determination $R \text{ Square} = 0.252$. It demonstrates that 25.2% variation of employee performance variable is determined (affected) by individual characteristics, occupational safety, and health. It means that other variables affecting employee performance are not included in the analysis model. The magnitude of variation of employee performance of PT PLN (Persero) in Merauke Regency which can be estimated by other variables is 74.8%. These variables are the motivation of work, leadership, work environment, compensation, and others. It is because of individual characteristics, occupational safety, and health are the things an employee needs to conduct his activities. Dessler mentions that employee performance is the actual achievement of the employee, in comparison compared to the expected performance of the employee [12]. This research is in line with the results of research stating that the individual characteristics have positive and significant effects on the motivation and performance of midwives at Regional General Hospital of Tapal Kuda Region, East Java [7].

4. Conclusion

Individual characteristics, occupational safety, and health simultaneously affect the performance of PT PLN (Persero) employees in Merauke Regency. Individual characteristics partially affect the performance of PT PLN (Persero) employees in Merauke Regency. Occupational safety partially affects the performance of PT PLN (Persero) employees in Merauke Regency. Occupational health partially affects the performance of PT PLN (Persero) employees in Merauke Regency.

Leadership of PT PLN (Persero) employees in Merauke Regency should pay attention to individual characteristics, occupational safety, and health in supporting employee performance. Improvement in employees' performance can be carried out by improving the abilities to cooperate with every employee in the company; boosting employee enthusiasm to work; undertaking intensive supervision on every company, especially on the safety and health of employees. Also, providing protective tools in workplace, such as helmets, boots, gloves, masks; creating good communication with all employees; creating a sense of comfort to work appropriately; providing education about the importance of health in completing the work process; and adjusting the work completion time to the work burden assigned by the company.

References

- [1] Hasibuan M S P 2005 *Manajemen Sumber Daya Manusia* (Jakarta: Bumi Aksara).
- [2] Gibson I, and Donnelly 1997 *Organisasi: Perilaku, Struktur, Proses* Jilid 1 (Jakarta: Erlangga).
- [3] Thoha M 2003 *Pengembangan Organisasi, Proses Diagnosa dan Intervensi* (Jakarta: PT. Rajagrafindo Persada).
- [4] Mangkunegara P A 2000 *Manajemen Sumber Daya Manusia Perusahaan* (Bandung: PT Remaja Rosdakarya).
- [5] Rivai V 2003 *Manajemen Sumber Daya Manusia untuk Perusahaan dari Teori ke Praktek* (Jakarta: Penerbit Rineka Cipta).
- [6] As'ad M 1995 *Psikologi Industri* Edisi keempat (Yogyakarta: Liberty).

- [7] Suswati E 2012 *Karakteristik individu dan karakteristik organisasi pengaruhnya terhadap motivasi dan kinerja Bidan pada Rumah Sakit Umum Pemerintah Daerah Tapal Kuda Jawa Timur* Proc. Pekan Ilmiah Dosen FEB UKSW, December 14, 2012.
- [8] Kahya E 2007 The effects of job characteristics and working conditions on job performance *Int. J. Indust. Ergonom.* **37** 515–523.
- [9] Malthis R, and Jackson 2002 *Manajemen Sumber Daya Manusia* (Jakarta: Salemba 4)
- [10] Paramita C C P and Wijayanto A 2012 Pengaruh keselamatan dan kesehatan kerja terhadap prestasi kerja karyawan pada PT. PLN (Persero) APJ Semarang *J. Adm. Bis.* **1** 1-11.
- [11] Akpan E I 2011 Effective safety and health management policy for improved performance of organizations in Africa *Int. J. of Business and Manag.* **6**. 159-165.
- [12] Dessler G 2009 *Manajemen SDM* Buku 1 (Jakarta : Indeks).