

The Performance of Miners in Old Oil Wells in Coal Potential Area (Study: Traditional Oil Miners in Wonocolo, Bojonegoro, Indonesia)

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Abstract—Wonocolo village in Kedewan district, Bojonegoro is well known for its coal-mining region since it is rich in oil, found inside old wells that are reutilized by the people for their way of living as oil miners. The research problem in this study is the performance of the miners that is not optimum due to the work conflict among the miners that leads to stress. The objective of the research is to analyze the influence of the work conflict and job stress on performance. This is a descriptive analytical study using primary data. The sampling technique used is purposive sampling and the analysis technique is path analysis.

The research results show that 1) There is a direct influence of conflict on performance. 2) There is an indirect influence of conflict on performance through job stress. The implementation of the research results is the synergy among the miners.

Index Terms—Work conflict, job stress, performance.

I. INTRODUCTION

Wonocolo village, in Kedewan district of Bojonegoro regency, is one of oil mining areas that utilizes traditional way in the mining process by using old wells built since Dutch colonization era, which do not have economic values for the company any longer. Right now, the people are still trying to make use of the wells again, traditionally, as their way of living. This is a hereditary occupation given by their ancestors. It is called as traditional since they still use workers, assisted by simple tools like rope, pipes, jerry cans, logs, truck machine, and many others.

Wonocolo village is one of the areas that is rich of oil, and thus the people should have been more prosperous since their economy is supported by the mining products of oil, however, in its reality the people cannot enjoy their natural resources to improve their prosperity. This hereditary occupation as miners, with a low wage, makes the people cannot change their profession to become the owner of the wells since the capital that they get after work does not enable them to do so. Besides, the unavailability of fertile lands that can be used for farm, the education level, and the low skills make them to stay on their current economic condition, which is below the poverty lines.

Wonocolo village has not experienced the proper development yet from the result of the mining processing that they have. The bad roads even worsen their access especially

in terms of transportation; in fact, the distance from their residents to schools is quite distant. In these last few years, the local government has made policy plan for the oil processing in that area. However, in reality, there is no concrete progress yet in the oil processing and people cannot see the result that can improve the prosperity of the people in Wonocolo village in Kedewan district of Bojonegoro regency.

In the mining process, the traditional miners still face many obstacles and challenges. Their income decreases day by day due to the rare and the expensive supporting tools. This is in line with the decrease of the production. Therefore, the miners are burdened and fearful of their occupation, whether it will last or no. This causes conflict to emerge, and if it is not well managed, it will give bad impact to the miners' performance.

II. PROCEDURE FOR PAPER SUBMISSION

A. Performance

Researchers have studied about the influence of stress on performance. In terms of performance, the research done by research team, [1] found out that the human equity mediates the relationship between organization innovation and performance. [2] found a causal relationship between empowerment and individual performance. [2] found out that the market of employees is influenced by skill implementation and interest. Suggest that performance is a work achievement, since organization is basically run by human, then the performance itself is the behavior of the human in the organization that fulfills the standard behavior set to reach the desired results, [2]-[5].

Performance is the work result that can be achieved by a person or a group of people in an organization based on their own duties and responsibilities in terms of reaching the objective of the related organization that does not break the law and is based on the moral or ethics. Performance is the success of a person in conducting a job [6].

Employees' performance refers to the work achievement of the employees measured based on the standards or criteria that have been set before. Performance is a condition that must be identified and informed to certain parties to know the level of result achievement that will be achieved later on [7].

There are 3 (three) factors that influence the performance of an individual [8], as follows:

[1] Individual factor: ability, skill, family background, work experience, social level and personal demography

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[2] Psychological factor: perception, role, attitude, personality, motivation and job satisfaction

[3] Organizational factor: organization structure, job design, leadership, reward system

Performance indicators according to [9] are as follows:

- a) Quantity, which is the number of completed or achieved tasks
- b) Quality, which is the quality that must be completed or achieved
- c) Punctuality, which is the timeliness of the tasks based on the scheduled time

B. Conflict

Conflict is a situation where emotion occurs among individuals due to the different goals that they want to achieve and that eventually leads to dispute. Conflict is seen as a condition where people do not have the same understanding about the values or objectives that they want to achieve [10].

Conflict among people may result in positive impacts or negative impacts. These impacts may influence the performance of each individual.

[4] Positive impacts: According [11], he suggests that the impacts of conflict are called positive impacts if there are efforts to prevent and manage the current conflict in a certain work environment that are done efficiently and effectively. Thus, the positive impacts will come up as the behavior of the employees as potential human resources.

[5] Negative impacts: According to [11], the negative impacts of conflict are caused by the less effective management of the conflict. This means that there is a tendency to let the conflict worsen. Avoiding a conflict is not a good decision, because the most important thing is to face the conflict and solve it, and not to avoid it and let it happen.

The indicators of work conflict according to [12] are as follows:

- a) There are different opinions among the miners
- b) There are misunderstandings among the miners
- c) There is one or there are two parties/miners who feel disadvantaged
- d) There is overly sensitive feeling among the miners

C. Stress

Job stress is a reaction of the feeling of being stressed out or disturbed physically, psychologically or behaviorally, which is experienced by an employee in handling a job. Stress is a dynamic condition where a person is given a chance, demand, or resources related to what he or she desires, in which the result is seen as uncertain and unimportant [13]. Stress is a form of a condition that influences emotion, thinking, and physical condition of a person. Stress occurring in a workplace is the result of emotional reaction due to the failure of a person in adapting to his/her workplace where there is discrepancy between expectation and reality [14].

Job stress can be caused by factors in the workplace, such as heavy pressure, unhealthy management, and bad relationship with others [15]. The symptoms of stress in the workplace can be observed from the behavior of the employees, such as low job satisfaction, decreasing performance, declining work enthusiasm, lessening creativity, bad decision, and many unproductive tasks. Stress in

employees many not always end in bad results to the performance of the employees, in fact on the other side stress can give motivation for the employees to be more enthusiastic in conducting their tasks to reach great work achievement [15].

Impact of Stress

One of the consequences of being stressed out is the hopeless condition that leads to desperation and the worst physical and mental condition that can create severe clinical depression. Stress must be handled soon since stress may cause many diseases such as chronic anxiety, high blood pressure, heart attack disease, and many other diseases.

Consequence of Stress

The mobility of the mechanism of body defense is not just the potential consequence of the contact with the stressor. There are numerous and various impacts of stress. Some of them are positive, like personal motivation and stimulus to work harder and improve better life inspiration. However, there are many disturbing effects that are potentially dangerous. There are three categories of the symptoms caused by stress [16], as follows:

- a) Physiological symptoms: Stress may cause metabolism change in the body, fasten heartbeat and suffocation, increase blood pressure, be prone to get headache and heart attack.
- b) Psychological symptoms: Stress is caused by dissatisfaction of something. For example, the feelings of tense, anxious, getting bored and angry easily, and procrastinating something
- c) Behavioral symptoms: Stress involves the change of productivity. For example, forgetting things easily, changing eating pattern, turning into smokers, and sleeping irregularly.

These symptoms are set as the indicators of stress.

III. RESEARCH METHOD

The design of this research is descriptive research using survey. The type of data used in this research is primary data obtained directly from the miners, processed and collected by the researchers themselves by distributing 15 item questionnaires.

In this research, the sampling technique is non-probability sampling by using purposive sampling method, which is a sampling technique based on the criteria set by the researchers where the samples are selected based on certain considerations according to the objective and the problem of the research being developed. In the sampling process of this research, there are two requirements, as follows:

A. Miners

1) Having been working for at least 5 years

There are 100 miners that meet the requirements for the samples of this research. The miners are located in Wonocolo village, Kedewan district, Bojonegoro regency. The variables in this research are Performance (Y) as the dependent variable, Work conflict (X) as independent variable, and Job stress (Z) as intervening variable.

The analysis technique in this research employs Path analysis. Path analysis is able to determine the pattern of the

relationship among three or more variables but it cannot be used to confirm or reject imaginary causal hypothesis. The research variables are proven to have direct relationship if one variable influences another variable without the third variable intervening the relationship between the two variables. On the other hand, indirect relationship is proven if the third variable intervenes the two variables [17].

The use of path analysis is to find out the direct and indirect influence. Direct influence is used to identify the direct influence of the independent variable on the dependent variable. Meanwhile, indirect influence is used to identify the indirect influence of the independent variable on the dependent variable through another variable [18].

In this research, path analysis is used to identify, as follows: Variabel X has direct influence on variabel Y, Variabel Z has direct influence on variabel Y, Variabel X has direct influence on variable Z, variabel X has indirect influence on variabel Y through variable Z. The structure equations of the path analysis diagram in this research are as follows:

$$Y = P_0 + P_1 X$$

$$Z = P_0 + P_2 X$$

$$Y = P_0 + P_1 X + P_3 Z$$

Note: Y = Performance

Z = Job stress

X = Economic development

Indirect influence (through Z) = $P_2 \times P_3$ [19].

IV. RESULT AND DISSCUSSION

A. Result

The result obtained in this research is an understanding about the role of job stress in the influence of conflict on performance in Wonocolo village, in Kedewan district of Bojonegoro regency. The understanding is obtained by distributing questionnaires and conducting interviews and observation. The questionnaires consist of 15 items of questions. These are the results of statistical descriptive tests:

TABLE I: COEFFICIENTS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	B		
1 (Constant)	.322	.586		.590	.758
Konflik	-.148	.031	-.174	3.895	.035
Stres	.860	.102	.777	8.461	.00

a. Dependent Variable: Performance

TABLE II: COEFFICIENTSA

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1 (Constant)	4.363	1.137		3.838	.000
Konflik	.220	.031	.731	7.114	.000

a. Dependent Variable: Stress

1) The influence of Conflict (X) on Performance (Y)

Based on Table I the regression equation can be given as follows:

$$Y = 0,322 + (-0,148)X$$

Note: X = Conflict

Y = Performance

The interpretations are as follows:

- 2) The constant value of 0,322 meaning that if the variable of Conflict (X) has the value of 0, then the variable of Performance (Y) will be 0,322.
- 3) The variable of Conflict (X) has negative regression coefficient. It means that if the variable of Conflict (X) increases, then the variable of Performance (Y) decreases, and vice versa.

Therefore, the hypothesis stating that Conflict has direct influence on Performance is supported.

The influence of Stress (X) on Performance (Y)

Based on Table 2 the regression equation can be given as follows:

$$Z = 4,363 + 0,220 X$$

Note: X = Conflict

Z = Stress

The interpretations are as follows:

- 1) The constant value of 4,363 meaning that if the variable of Conflict (X) has the value of 0, then the variable of Stress (Z) will be 4,363
- 2) The variable of Stress (X) has positive regression coefficient. It means that if the variable of Conflict (X) increases, then the variable of Stress (Z) increases, and vice versa.

Therefore, the hypothesis stating that Conflict has direct influence on Stress is supported.

Job stress (Z) mediates the influence of conflict (X) on performance (Y)

Based on Table 2 the regression equation can be given as follows:

$$Y = 0,322 + (-0,148)X + 0,777Z$$

The results of direct influence and indirect influence of the conflict on performance through job stress are as follows:

Direct Effect

$$X \rightarrow Y = -0,148$$

Indirect Effect

$$X \rightarrow Z \rightarrow Y = 0,731 \times 0,777 = 0,568$$

Total Effect = Direct Effect + Indirect Effect =

$$(-0,148) + 0,568 = 0,420$$

Note:

Y = Performance

X = Conflict

Z = Job stress

Therefore, it can be compared: the coefficient of indirect influence (0,568) > (-0,148). From this result, it can be concluded that the indirect influence of conflict on performance mediated by job stress is significant. Therefore, the hypothesis stating, "conflict has indirect influence on performance through job stress" is supported. This result can be described in the following path diagram of Fig. 1.

Interpretation :

Direct influence from X to Y = -0,148 (P₁)

Direct influence from Z to Y = 0,777 (P₃)

Direct influence from X to Z = 0,731 (P₂)

Indirect influence (through Z) = 0,777x 0,731 = 0.568,

where $0,568 > -0,148$

$$\text{Total influence} = 0,544 + (-0,148) = 0,420$$

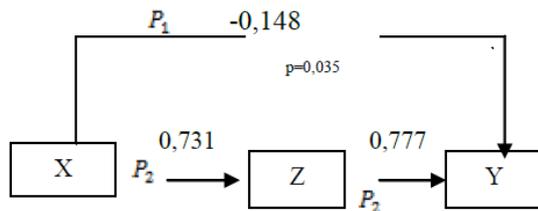


Fig. 1. The Influence of the work conflict, job stress, on performance.

B. Discussion

1) First hypothesis: conflict has direct influence on the performance of the miners

The research result using multiple regression analysis showing that conflict has negative influence on the performance of the miners.

This is explained when the miners face the conflict of having different opinions, misunderstanding, the feeling of disadvantaged and overly sensitive. When this happens among the miners then it will disturb the miners in completing their tasks so that what they expect does not suit the desired target in terms of quantity, quality, and time in finishing the tasks.

2) First hypothesis: conflict has indirect influence on the performance of the miners mediated by job stress of the miners

The research result using path analysis shows that conflict has indirect influence on the performance of the miners mediated by job stress of the miners.

This can be explained that in Wonocolo village, until these days the miners have never been in great conflict that lasts long, like dispute or fighting among the miners that makes their jobs discontinue. However, little conflict such as having different opinions, misunderstanding, and the feeling of disadvantaged and overly sensitive among the miners is something inevitable.

Usually, this little conflict has hidden characteristics. Therefore, usually, when the little conflict occurs the people do not realize that it can disturb the level of job stress seen in physiological symptoms (changes in metabolism, blood pressure, headache during work), psychological symptoms (anxiety, getting angry and bored easily, procrastinating things), and behavioral symptoms (changes in eating pattern, anxiety, and sleep disorder).

These will lead to bigger conflict and may disrupt the job activities that eventually will not meet the expectation. However, if job stress can be managed well, it will help the miners to conduct the job optimally so that they are able to reach the target and eventually will improve their performance. Therefore, it is necessary to always be aware to keep the comfort in the workplace.

V. CONCLUSION

The performance of the miners by utilizing old oil wells cannot be expected to improve the economic welfare yet.

This is due to the conflicts among the miners. Therefore, there is a need to manage the conflict so that it will not lead to job stress, and thus it is necessary for the miners to be aware of the various personalities and characteristics of the miners so that there will be potentials of having different opinions, misunderstanding, and the feeling of disadvantaged and overly sensitive. With this awareness, the miners can complete their tasks according to the scheduled target.

The management of the conflict due to the different opinions is seen as various work dynamics to complete each other's weakness and strength. Thus, there will be good cooperation with the good communication. Eventually, it will result in completed tasks that are based on the expected quality and quantity and the scheduled time so that at the end, it will enable the miners to improve the economic condition of their family and the region.

The research benefit obtained by the researchers in conducting this research is the good cooperation among the team members. In addition, the researchers are also able to identify a problem and can give solution to the problem in managing the conflict and the job stress of the miners in Wonocolo village in Kedwan district of Bojonegoro regency. The suggestion for the further research is that it is necessary to add variable of training to improve the skills.

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