

Review of Human and Environment Factor in Implementing Working Effectiveness

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Abstract-This paper provides an objective description of the development of human and environment as an independent variable to measure working Effectiveness as a dependent variable in CV. Abadi Sejahtera Karya in 2016. The method that will be used is quantitative descriptive by using multiple linear regression with interpretation through SPSS program version 19. The results obtained significant both partially and simultaneously. The advice that needs to be given is that every employee is given a non-formal education to improve competitiveness in the era of the Asian Economic Community (AEC).

Keywords-human, environment, working, effectiveness

I. INTRODUCTION

The level of risk of work in the construction industry is greater than other industries which require employees to have a high awareness of their safety. A dangerous construction industry work environment requires employees to be careful in working so that no work accidents occur. Hazards that can arise in the construction industry work environment such as the danger of falling from a height, collapse of the foundation and crushed material in competitive business environment.

Managerial effectiveness is one which has caught the focus of theorists and practitioners time and win in competitive business environment for organization growth and safety induction [1]. The main risk factors for accidents are similar to those in Lithuania and Croatia may be decreased by considering protective at work [2]. One of the objectives of any business organization is profit maximization but cannot be achieved satisfactorily without an efficient and effective workforce such as staff training and development as well as safe working [3].

CV. Karya Abadi Sejahtera Medan which is engaged in the building construction industry has a high level of workplace accidents from serious injuries to loss of life because employees who are still joking while working, are not compliant with work regulations and often smoke while working so that resulting in disruption of the concentration of employees while working and the risk of work accidents that can be unavoidable. The workplace environment also encourages accidents such as irregular spatial planning, lack of awareness of companies and employees in the maintenance of work equipment and the unavailability of adequate work safety equipment such as masks, glasses, clothes and shoes, thus increasing the risk of workplace accidents.

The global economic crisis, crises on human capital and its performances has become increasingly obvious so that it needs perspective, the strategic role of human resources' development for safety [4]. The basic of public sector reform over the past two decades rests with the growing bureaucratic government company were in efficient and wasteful compared with its processes of the private sector [5].

The lack of understanding from the company about the importance of protecting employees from the dangers of work accidents also causes employees to be ignored about their safety at work. Work accidents can't be prevented by the company, but must be anticipated. Therefore, it is necessary to have work safety management in the construction industry so that it can improve supervision in the field so that employee work effectiveness can be increased. Based on the description mentioned, the researchers are interested in conducting research with the title "Review Of Human And Environment Factor In Implementing Work Effectiveness with the case study CV. Karya Abadi Sejahtera Medan". It views Human Resource Department (HRD) as the integrated use of training and development to improve the ability. It assumes that HRD practices to run business performance through improvement in hard and soft skill [6].

Based on the background, then they make the formulation of the problems is whether there is an influence of Human And Environment Factor both partially and simultaneously on the work effectiveness of CV. Karya Abadi Sejahtera Medan in 2016. Building on management strategic, there's the research about the effect of human resource development (HRD) on the operational and financial performance of manufacturing especially in making the safety induction [7].

The Research about delivery and profitability, qualified employees are required. It means HRD should implement the strategy to improve the capacity of employees, appreciate the best performance [8]. The effective human resources development can improve productivity and determine the efficiency of human resources training and development in organization growth, find the factors consider the HRD and o productivity to get the attitude of the senior management and other employees on the need for proper utilization of available workers which have tremendous effect on the safety and productivity [9].

Common organization invests huge input on HRD initiatives because of the best result that this will improve the productivity. However, these expectations seldom on the right side. This study empirically tests the effect of HRD on financial performance with competency and commitment acting as the way to pay attention to the Standard Operational Procedure (SOP) [10]. Workers who are face the global competition are very important. Qualified human resources who have skills to give quality services to the consumers. Human resource development, equipped with sufficient funds, tools, and infrastructure, will result in desired goals and know how to use it based on the SOP made [11].

Intellectual capital will face the achievement of productivity, competent and motivated worker has been the target of every company. Getting the needs the qualified HR and enable to improve the safety induction [12]. There had been the changing life cycle of the company. All of those moving and globalization can make the management strategy in competition and cause the radical changes in employees' attitude in working [13]. The research on the connection both of HRM and performance constructs need the best strategy in investment in HR may involve only negative result such as the work accident that can earn cost more [14].

II. MATERIALS AND METHOD

The research location is on Jl. Mabar. CV Karya Abadi Sejahtera Medan which is a middle class business, therefore the technology is still relatively simple and not too complicated. Data source in this research is using primary data and secondary data. Primary data is taken from the respondents of the study obtained based on the results of questionnaires and interviews in the form of human factors and environmental factors as independent variables and employee work effectiveness as the dependent ones. The secondary data obtained on Library research Supporting theories relevant to the research. Operational definition variables are:

- Human factors are employee attitudes in receiving training, employee discipline in complying with work procedures, compliance in the use of work safety equipment with interval measurement scale.
- Environmental factors are feasibility of equipment used, availability of hazard protection facilities for employees as well as regular arrangement of work equipment or material at the project site.
- Employee work effectiveness is the more monitoring process, the better discipline of work safety tools so that the sense of safety in work is getting higher.

Multiple linear regression analysis is used to determine the effect of human factors and environmental factors on the effectiveness of employee performance. These variables can be written as follows :

$$Employee\ work\ effectiveness = a + b_1 Human\ factors + b_2 Environmental\ factors + e$$

a = Constanta

b₁, b₂ = Coefficient Of Human factors and Environmental ones.

Hypothesis Test on this research used partial test, simultaneous test and determination coefficient. Before making the process, it needs the classical assumption test.

III. FINDINGS AND DISCUSSIONS

The majority of respondents in the company had work experience that is less than 5 year as many as 30 people or 60% of the total ones. It shows that the majority of employees who work in the CV. Karya Abadi Sejahtera Medan does not have sufficient work experience in the field of construction so that the risk of work accidents has a tendency to occur very often.

Implementation of The Multiple Linier Regression

As the result in classical assumption in Table 1, it can be concluded that there is no problems occur so that it can be continued into other tests.

TABEL I. THE TYPE OF CLASSICAL ASSUMPTION

| Classical Assumption Test | Result |
|---------------------------|----------------------|
| Normality Test | Normal Distribution |
| Multikolinearity Test | No Multikolinearity |
| Heteroskedasticity Test | No Heterokedasticity |

Multiple Regression analysis was carried out to determine the value of the independent variables, namely human factors, environmental factors on the dependent variable, namely the effectiveness of employees so that it can be formulated :

$$Employee\ work\ effectiveness = 1.128 + 0.485 Human\ factors + 0.221 Environmental\ factors + e$$

The results of the SPSS 19 as follows: based on these equations can be described as follows: Constants (a) = 1.128, it means that the variables of human factors and environmental factors are considered zero, the work effectiveness of employees is 1.128 unit. The high impact in the human factor variable of 1 unit will increase the work effectiveness of employees by 0.485 unit. The high impact in environmental factor variables of 1 unit will increase the work effectiveness of employees by 0.221 units. The whole result can be seen in Table 2.

TABEL II. MULTIPLE LINEAR REGRESSION RESULT

| Model | Unstandarized coefficients | | Standarized coefficients | | Sig |
|---------------------|----------------------------|-----------|--------------------------|------|-------|
| | B | Std error | Beta | t | |
| Constant | 1.128 | 0.327 | - | 3.45 | 0.001 |
| Human factor | 0.485 | 0.077 | 0.641 | 6.27 | 0 |
| Enviromental factor | 0.221 | 0.092 | 0.246 | 2.41 | 0.02 |

Simultaneous test (F Test) is used to find out whether there is a joint (simultaneous) independent variable to the

dependent variable. The following is presented the results of the F test using SPSS 19 based on the processing results obtained in Table 3, it is known that The F-table value can be seen at $\alpha = 5\%$, 0 is lower than 0.05. Both of variables of human factors and environmental factors influence in the work effectiveness simultaneously.

TABLE III. SIMULTANEOUS SIGNIFICANCE TEST RESULT

| Models | Sum of squares | df | Mean square | F | Sig |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 9.371 | 2 | 4.685 | 39.013 | .000 ^a |
| Residual | 5.645 | 47 | 0.12 | | |
| Total | 15.015 | 49 | | | |

The partial test (t-test) aims to see the effect of independent variables such as human factors and environmental factors as partially on the work effectiveness of employees. From the results of Table 1 with SPSS 19 Both of them obtained significant as partially with the decision making criteria is accepted if $0 < 0.05$ at $\alpha = 5\%$ so that for human factor $0 < 0.05$ and for environment factor $0.02 < 0.05$ at $\alpha = 5\%$. They can be seen in table 1.

Implementation of concept of R²

The determination coefficient (R²) is used to determine the influence both of independent ones on the dependent ones. It is determined by the value of adjusted R square. Regression calculation results can be seen that the determination coefficient obtained is 0.608. This means that 60.8% of the work effectiveness of employees is influenced by human factors and environmental factors while the remaining 39.2% is influenced by other variables not examined in this study. It can be seen Table 4.

TABLE IV. DETERMINANT COEFFICIENT (R²)

| Models | r | R square | Adjusted R square | Std error of the estimate |
|--------|-------------------|----------|-------------------|---------------------------|
| 1 | .790 ^a | 0.624 | 0.608 | 0.34655 |

Human factors had a positive and significant influence on the work effectiveness of employees. Based on the observations made it appear that employees sometimes are still not serious when working like smoking or They are joking with colleagues occasionally so that it can increase the risk of work accidents because it will make employees lose concentration whereas in terms of complying with SOP such as compliance in terms of using safety equipment such as shoes, helmets and safety belts is good enough

In addition to the negative attitudes shown by employees at work, the thing that can encourage accidents is the lack of skills possessed by employees. Therefore the company must provide training such as training in the use of work equipment so that employees will have skills in using work equipment or work facilities that can confine them to their work and the risk of workplace accidents due to work equipment can be reduced. Training provided

by CV. Karya Abadi Sejahtera Medan is mainly in the form of training in the use of work equipment such as welding transformers, drills, fliers and other supporting equipment provided before the project implementation time begins like the opinion of [1], [2], [3], [4].

Environmental Factor had a positive and significant aspect on the work effectiveness of employees. Based on observations, the company never carries out maintenance of its work equipment every time, the employee has finished using it and if there is damage, the company will replace it with a new one immediately so that the work equipment is always in the state of proper use. However, the routine work equipment maintenance should be carried out to be in good condition when it will be used again. From the layout of materials or work equipment around employees, it is still not well organized and looks messy whereas with the irregular arrangement of work materials or work equipment around the project site, They will be at risk of tripping so that falling while working other than that with irregular arrangement of equipment will slow down the movement of them which results in ineffective work of the employees themselves. The best one can get the high productivity in order to reduce the weakness in SOP focus by making training and development to get significant influence on profitability in company productivity as the opinion [5], [6], [7], [8], [9].

Based on the results of observations made, it appears that in the case of available safety equipment such as belt, helmets and gloves are always a top priority given by the company even though some work equipment such as clothes, shoes, masks and glasses are not provided. The management of the company control the layout of work materials or equipment is still not good. The attitude shown by working employees is also good enough in terms of adhering to work procedures to use safety equipment such as wearing a safety belt or rigging when working in a high location as well as using a helmet to enter the project site.

Contemporary organization invests a lot to get the efficiency and effectiveness. HR who are prepared to face competition is very important to have the qualified services to the consumers. All those developments and globalization can improve market capacity and cause radical changes in employees' connection. The observation of construction business need to pay good attention to the equipments and the manual using to get the best safety result at the working area as the point of view the opinion [10], [11], [12], [13], [14].

IV. CONCLUSIONS

Based on the results of the analysis of the factors that affect workplace accidents on the work effectiveness of the company's employees in CV. Karya Abadi Sejahtera Medan, it can be concluded: Partially indicated that human factors, environmental factors have an influence on the work effectiveness of employees. Simultaneously shown that both human factors and environment factors have an influence on the work effectiveness of employees. The coefficient of determination showed that the value of

Adjusted R Square affected the work effectiveness of employees by 60.8% and the rest by 39.2%, influenced by other factors that are not examined in this study.

There are some suggestions for CV. Karya Abadi Sejahtera Medan that it should arrange work to have a safe work environment so that it does not interfere with activities rather than employees which can lead to work accidents. The freedom of foreign workers who can enter Indonesia due to AEC, CV. Karya Abadi Sejahtera Medan must improve the education of its employees such as providing non-formal education in making in the proper SOP.

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