EFFECT OF THE WORK ENVIRONMENT, LEADERSHIP, WORKPLACE DESIGN, AND WELFARE FACILITIES ON WORK PERFORMANCE

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ABSTRACT

Regional workshop is the workshop move in treating vehicles in unit of Kodam Jaya Jakarta. In order to optimize a result of working, workshop that are required to be able to increase work performance and speed up activities administration so that can support in increasing productivity, the quality of work, creativity and innovation work. To support establishment of the mean kinds of analysis factors which could affect the performance of the operator. The factors among others are work environment, type of leadership, design work, and welfare facilities. Researchers spreading questionnaire relating to factors are to an operator who works at workshop. By using the method regression analysis, gained the percentage of the influence of the four factors are against employee performance is worth 55,8%.

Key words : work environment, questionnaire, regression analysis.

1. INTRODUCTION

The development of the service industry and manufacturing at this time many experiencing the changes very quickly because it is caused by the demands of an era of the globalization of business, business innovation, business and technology. On some large organization, modern management approaches are utilized in order to reduce the pressure began to rise in the organization. One of the management approaches that are commonly used to anticipate customer demand is through information technology.

One of the problems that occur at the customer's service levels. This Ministry is important for a company engaged in the field of services such as Bank, travel agency, workshops, etc. A good level of service will be strongly influenced by the performance of work of company especially from the ability possessed by the operator itself. For that I need to know the factors that affect the performance of the operators in order to achieve a level of productivity and efficiency of the work of the company in accordance with the company's optimal capabilities. On this occasion, the researchers raised the case of a company which is engaged in the

field Regional Workshop Kodam Jaya. In line with the position and the function of the repair shop, it is necessary to evaluate the effectiveness and quality of service related optimal workshop. To support the realization of the attainment of the functions and duties of these regional workshops of Kodam Jaya need to compile develop a Ministry that has been done. One way to solve the problem of related performance improvements the operator, then the necessary analysis of the factors that affect the performance of the operator.

2. THEORITICAL BACKGROUND

Human Resource Management
Human resource management is the planning, organizing, directing and controlling over labor, compensation, development, integration, maintenance and termination of employment relationships to achieve target individuals, organizations and communities.

Human resource management is an important thing, especially if it will be used to lift labor workforce performance and analyse existing in a company. Because of such important positions, then I need to know in

advance the cycle force human resources management so that the decision of what will be seen in the cycle.

Figure 1. Human Resource Management Cycle

Human Work Productivity and Manner of Work

Productivity is a ratio between the output and input, then the ratio can be used to approximate the work done by human beings. To measure the productivity of human labour, then the formulation can be used as follows :

$$Productivity = \frac{Output\ Total(unit)}{Number\ of\ labor}$$

According to Sritomo Wingjosoebroto (1995) productivity is influenced by two factors, namely the technical factors related to the use and application of production facilities and human factors that have an impact on the efforts made in completing the job responsibility.

Linearity Test Relations

Regression analysis assumes that the relationship between the dependent and independent variables is linear. As a result, if the relationships between the variables is not linear, then the resulting relations can be very low. Therefore, before doing the regression correlation analysis, preferably done linearity tests to ascertain whether the degree of relationship between the two variables is linear, kuadratik, or in a higher degree.

In accordance with the above explanations, theories and hypotheses to be tested in the test linearity can be formulated as follows :

H_0 = The correlation between variables and the dependent variable is free is not a linear relationship

H_1 = The correlation between variables and the dependent variable is free a linear relationship

$$H_0 : R^2 < 0,05$$

$$H_1 : R^2 > 0,05$$

Multiple Linear Regression Analysis

Method of regression analysis used to do research on the dependence of the dependent variable is one of a number of independent variables. The working principle of this method is based on the least square method, i.e. by finding the linear relationship between the dependent and independent variables that will minimize the sum of squared deviations and linear formed with observation points.

The correlation between the dependent and independent variables can be expressed in a mathematical equation as follows :

$$Y = a + b_1X_1 + b_2X_2 + . . . + b_nX_n$$

Explanation :
Y = dependent variabel
a = constant
X_i = independent variabel – i
b_i = independent variabel coefisien - i

To measure how big the variables could explain the dependent variable, free used a correlation coefficient R where the coefficients can indicate the proportion of total variability in the dependent variable that can be described by models regression.

The correlation coefficient R has values between 0 and 1. The value of R that is approaching 1 indicates that the model is good, in the sense that it can represent the problems examined. Should the value of R is close to 0 means that the linearity between variables in the model are small. Coefficients can be obtained by the formula :

$$R_{(1,2,3,...m)} = \sqrt{\frac{b_1 \sum x_1 y + b_m \sum x_m y}{\sum y^2}}$$

Validation Analysis

Validity is the degree of the ability of an instrument to reveal something that was subjected to principal measurements performed with the instrument. Validation of a questionnaire to measure the factors that want to measure from the details of the question.

Basic steps in the analysis of validation are :
a. Calculate the score factors as the sum of the score in factor.

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b. Calculate the correlation between the moment of tangkar score items (X) and factor score (Y).
c. Calculate the total correlation.
d. Test the significance of adequate r pq.
e. Abort a grain statement that is not valid.

Reliability Analysis

Reliability an instrument indicates stability, stability or keajegan observations when used or measured by the instrument in time-next time with the condition of something being measured is not changed. In this study, reliability analysis is performed with the Cronbach Alpha techniques and software with Seroi Statistical Programme (SPS) Edition Sutrisno Hadi.

3. RESEARCH METHOD

The purpose of this research is to know the magnitude of the influence factors in the working environment, the type of leadership, design work, and welfare facilities to the local repair shop operator performance and improve the performance of operators in the garage area by looking at what factors are more dominant in increasing performance by using the method of regression analysis.

Methods used in research this time was method regression analysis with various statistics test. Some test statistic among others are test validity and reliability, test normality, test linearity relations, and regression analysis.

Retrieval data done by means of spreading 100 questionnaires to an operator who works at the care kodam jaya Jakarta where employment operators is performing service to vehicles owned by kodam jaya. Besides, operators allowed fill questionnaire is an operator who have minimum secondary education and vehicles that have been serviced is four-wheeled vehicle.

4. RESULT AND DISCUSSION

The number of deployed questionnaire amounted to 100 pieces, but the questionnaire returned and declared valid only amounted to 86. By looking at the results of the calculation of the number of samples using a 95% confidence level with an error rate no more than 0.11. This amount is deemed to be reasonably representative of the population being examined and in line with the theory that States that a sample is needed when data is processed with a minimum of 30 data correlation techniques.

The result of validity analysis

a. Work environment Factors (X 1) against the performance of operators (Y) : This working environment factors supported with 9 kinds of questions (1-9), where the validity was tested after all valid questions so there is no question that item removed.
b. Leadership type Factor (X 2) against the performance of operators (Y) : Factor type leadership was supported with 5 kinds of questions (10-14), where after tested the validity out there were the one question was no valid, namely grains question 14th so grains that question disposed.
c. Workplace design Factor (X 3) against the performance of operators (Y) : These factors supported with 7 different questions (15-21), where the validity was tested after all valid questions so there is no question that item removed.
d. Factor of welfare facilities (X 4) against the performance of operators (Y) : These factors supported with 5 different questions (22-26), where the validity was tested after all valid questions so there is no question that item removed.

The result analysis of the reliability of grains questions

Analysis of reliability of grain this question aimed to test the stability of the internal answers in one factor. Analysis of the reliability of the grains in the study carried out using the SPS program (series statistics programs).

Table 1. The result of reliability

Independent Variable	r tt	p	Status
X1	0,860	0,000	Reliable
X2	0,852	0,000	Reliable
X3	0,862	0,000	Reliable
X4	0,797	0,000	Reliable

In the table above it can be concluded that the four variable rated r produce tt 0.8. The minimum for tt-r revealed significant is 0,434. This means that the questionnaire used to have a reliable level of stability.

The result analysis of R significance test

From the results of the data processing by using the software using SPS obtained price $R2 = 0,558$. F_{table} found that the price of F t 5% for dB = 4 opponents 81 is equal to 2.45. So it can be inferred that $F_{regression}$ & gt; F_{table}, that is significant.

The result analysis of partial regression test

Results to hitung for all show the value of the variable X & gt; t0 (4) = .05 2,132. So all the variable X has a positive influence on the variable Y (performance carriers).

5. CONCLUSION

Based on the research been conducted then obtained conclusion as follows :
 a. There are significant influence for factors workplace, type leadership, design work, welfare and facilities on the performance operators.
 b. Factor the most dominant in leveraging performance operators are a work environment with the percentage of 17,856 %.

6. REFERENCES

(a) Djoko Prajitno. (1985) Analisis Regresi Korelasi, Liberty, Yogyakarta.
(b) Hadari Nawawi. (1995) Metode Penelitian Bidang Sosial, Gadjah Mada University Press, Yogyakarta.
(c) Hadi, Sutrisno dan Seno Pamardiyanto. (1993) Manual SPS-Paket Midi, UGM Yogyakarta.
(d) Kertonegoro, Sentanoe. (1993) Penelitian Produktivitas Sekaligus Perbaikan Tempat Kerja.
(e) Muhammad As'ad. (1991) Psikologi Industri, Edisi ke-4, Liberty Yogyakarta.
(f) Philip Kotler. (1994) Manajemen Pemasaran, Analisis, Perencanaan dan Pengendalian, Edisi Ke-8, Salemba Empat Jakarta.
(g) Ronald E. Walpole dan Raymond H. Meyer. (1986) Ilmu Peluang dan Statistik untuk Insinyur dan Ilmuwan, ITB Bandung.
(h) Saifudin Azwar. (1998) Seri Psikologi : Sikap Manusia-Teori dan Pengukurannya, Liberty Yogyakarta.
(i) Sutrisno, Hadi. (1991) Analisis Butir untuk Instrumen, Andi Affset, Yogyakarta.
(j) Sutrisno, Hadi. (1995) Analisis Regresi, Andi Affset, Yogyakarta.
(k) Sutrisno, Hadi. (1991) Metodologi Research Jilid 2, Yayasan Penerbitan Fakultas Psikologi UGM Yogyakarta.
(l) T. Hani Handoko. (1995) Dasar-dasar Manajemen Produksi dan Operasi, Penerbit BPFE, Yogyakarta.

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