

The Effect of Information System on Employee Performance

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Abstract— Information systems are experiencing rapid development that has become a necessity for organizations, companies and individuals. It became a basic requirement for large companies because they can provide convenience, speed and accuracy in processing data to become necessary information. This research was conducted at a regional drinking water company in Bandung, namely Perusahaan Daerah Air Minum (PDAM) Tirtawening. The purpose of this study is to determine the effect of the application of information systems on employee performance in PDAM Tirtawening. Descriptive analysis and verification methods were used to answer the problem formulation in this study. Respondents in this study were 114 PDAM Tirtawening employees who used the application in customer mutation activities, meter recording, billing systems, and digital asset mapping. Regarding population, the sampling used in this study was saturated sampling. To test the hypotheses, quantitative analysis methods used with Structural Equation Model analysis techniques or commonly known as SEM (Structural Equation Model). Based on the results of the study, it is known that the variable application of information systems (X) as a whole have a positive effect on employee performance (Y). From the results of the study, it can be concluded that the Information System has a positive and significant effect on employee performance with a path coefficient of 0.68, meaning that the better the information system, it will create good employee performance as well.

Keywords—Information Systems, Employee Performance

I. INTRODUCTION

Information systems are a combination of work procedures, information, people, and information technology that organized to achieve goals in an organization [1]. Employee performance is the work that can be achieved by a person or group of people in an organization according to their respective authorities and responsibilities. In the context of achieving the objectives of the organization concerned legally, it does not violate the law and in accordance with morals and ethics [2]. In the supply of drinking water, the government of Bandung has a Perusahaan Daerah Air Minum Tirtawening - hereinafter referred as PDAM - is a Regional-Owned Enterprise that engages in public service [3]. This research is expected to produce measurable evidence about the effect of the implementation of information systems and technology on the performance of PDAM Tirtawening employees.

Renaldy H. Lukiman reports that information systems and information technology significantly influence individual performance. This means that the information system variables in manufacturing and non-manufacturing companies affect employee performance. Ahmad Dian Safira reports that Information Systems relating to content and ease can improve employee performance [4]. V. Lizy, Dessy reports that timeliness, frequency of use, gender, status, and computer experience as indicators of the information system have a significant effect on employee performance. While ease, background, and length of work did not significantly influence employee performance [5]. A. Abugabah, L. Sanzogni, and Arthur Poropat stated that information systems affect employee performance [6]. E. Hidayati reported that partially motivation, expertise, and technology utilization variables had a significant positive effect on the application of regional management information systems to employee performance [7].

The purpose of this study is to know the employee's response to the application of information systems and employee performance at PDAM Tirtawening and to know the effect of the application of information systems on employee performance in PDAM Tirtawening. It is because in previous studies, there was no one that discussed the effect of the system on the performance of PDAM Tirtawening's employees. Descriptive and verification methods were used to support this research.

II. METHODS

The method used in this research is descriptive and verification with quantitative approach. Survey methods has been done for the descriptive method and used the explanatory survey method for the verification. This research variable consists of three types, the independent variable is the information system (X1), information technology (X2), and the dependent variable is the employee's performance (Y).

The process of collecting data in this study used questionnaire. The data determined from the entire population of employees using the application for customer mutations, meter recording, billing systems, and digital mapping which means using saturated sampling. To test the level of data quality, we used two concepts, namely the validity test and reliability test.

The data analysis design used descriptive analysis to look at the causal factors in analyzing information systems,

information technology, and employee performance in PDAM Tirtawening. Besides, verification analysis used to get answers to the problems raised in this study using structural equation models or Structural Equation Modeling (SEM).

Based on the equation model on, substructures made in the path diagram of the research variable and test the statistical hypothesis by testing each hypothesis 1 through hypothesis 4. Based on the results of data processing that has been carried out, further analysis will be carried out both directly related to the topic of research and analysis in general.

III. RESULTS AND DISCUSSION

This research conducted to examine the effect of information systems on employee performance in PDAM Tirtawening. Data was collected by distributing questionnaires to 114 employees who used the application for customer mutation activities, recording meters, billing systems, and mapping assets digitally.

The results show there was a positive effect of the application of information systems on the performance of PDAM Tirtawening employees.

TABLE I. SUMMARY OF DESCRIPTIVE ANALYSIS OF INFORMATION SYSTEM VARIABLES

Information System	Actual Score	Ideal Score	Percentages of The Actual Score	Criteria
System Quality	7.414	11.475	65%	Good Enough
Information Quality	5.178	7.650	68%	Good Enough
Total	12.592	19.125	66%	Good Enough

Based on Table 1 above, the information system in PDAM Tirtawening in Bandung is quite good with an Actual Score of 66% and is in accordance with the conditions in the company's work environment.

The performance of PDAM Tirtawening Kota Bandung is quite good with an Actual Score of 67.93% and is in line with company expectations for now. Among the five employee performance indicators, punctuality is the highest with an Actual Score of 68%. This shows that the information system affects the use of time by employees to work. As shown in the Table 2 below:

TABLE II. SUMMARY OF DESCRIPTIVE ANALYSIS OF EMPLOYEE PERFORMANCE VARIABLE

Information System	Actual Score	Ideal Score	Percentages of the Actual Score	Criteria
Quantity of Work Results	3465.6	5130	67,56	Good Enough
Quality of Work	3465,6	5130	67,56	Good Enough
Effectiveness	1117,2	1710	65,33	Good Enough

Punctuality	2713,2	3990	68,00	Good Enough
Presence	752,4	1140	66,00	Good Enough
Total	10453,8	15390	67,93	Good Enough

Based on the results of the information system questionnaire validity test, it can be seen that the value of the correlation coefficient for all statement items is greater than the critical value of 0.361 (from the correlation coefficient table with a real level of 5%, n-2 degrees of freedom = 28). Thus, it can be stated that all statement items contained in this questionnaire are valid, so that all statement items in the attitude variable in this study can be used to collect research data.

Based on the results of the reliability test, it can be seen that all research variables have a reliability coefficient above 0.70. Thus, it can be stated that all research tested in this study is reliable or has a high level of consistency. Therefore, it can be used to collect research data.

Construct Reliability (CR) of the 15 items of information system latent variable statement is greater than the standard, which is 0.7. T values indicate that all 15 statement items are significant in forming attitudinal latent variables (all values of $t > 1.96$). Variance extracted value (VE) of 0.401 means that 40.1% of the information contained in the manifest variable (the 15 indicators) can be represented in the latent variable of the information system.

CR of the 11 items of employee performance variable statement is greater than the standard, namely 0.7 (Hair, et.al, 2007). The t value indicates that all 11 statement items were significant in forming employee performance variables (all values of $t > 1.96$). VE of 0.406 means that 40.6% of the information contained in manifest variables (all 9 statement items) can be represented in employee performance variables.

The information system is hypothesized to have a significant effect on PDAM Employee Performance. To prove the hypothesis, a statistical hypothesis is tested as follows.

Ho: X1 does not have a significant effect on Y

Ha: -X1 has a significant effect on Y

TABLE III. SIGNIFICANCE TEST OF THE EFFECT OF ATTITUDE TOWARDS CUSTOMER SATISFACTION

Variable	Path coefficient t	t-count	t-critical	Conclusion information	Information
Information system	0,68	6,05	1,96	There is a significant influence	Ha accepted
Magnitude of Influence = 46,24%					

In Table 3, it can be seen the path coefficient of the variable attitude to customer satisfaction of 0.68 and tcount of 6.05. Because tcount is greater than tcritical, it is concluded that the information system has a positive and significant effect on the performance of PDAM Bandung's Tirtawening employees.

IV. CONCLUSION

Based on the results of the analysis and discussion presented in the previous chapter, it can be concluded that the application of the information system had a positive influence on employee performance at PDAM Tirtawening. Using information systems in completing their assignments greatly encourages employees to be able to simplify work and be able to produce information that is timely, accurate, and trustworthy.

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