

THE IMPACT OF DIGITAL WORK SYSTEMS AND INFORMATION SYSTEMS ON EMPLOYEE PERFORMANCE: Work Models in Society 5.0 Era

Agus Caesario

Universitas Nasional, Indonesia
jolengcaesar@gmail.com

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ABSTRACT

Since the pandemic occurred, the digital work model has begun to be implemented in many companies. This was done as a solution to overcoming work constraints due to Covid-19 and government regulations regarding restrictions on interactions. However, even though the pandemic status has been revoked, the digital work system is seen as more efficient in creating an effective work system and increasing employee performance. Based on this explanation, this research was conducted to describe employee performance in digital work models and information systems. To prove the research objectives, a quantitative-based survey method was used. Where the research data was obtained through distributing questionnaires, with a Likert scale as the quantification of respondents' answers. The number of samples used was 100 people, all of whom were Startup Indonesia employees, using the incidental sampling technique. The collected research data were analyzed using multiple regression methods. The results of the study show that there is an increase in employee performance with the existence of a digital and information system-based work system. Digital work systems help facilitate employee work, while information systems create communication and coordination effectiveness, so that work processes can be carried out more efficiently.

Keywords: Digital Work Systems, Information-Based Work Systems, Digital Management, Performance, Employees

INTRODUCTION

Technological developments are increasing, so that every work equipment used by institutions today uses more digital systems, this is also included in the field of lighting which is more related to information systems (Widiatmodjo, 2016). Digitization of information systems is made to make it easier for stakeholders to convey, provide, compile and explain information digitally. This is understandable considering that each agency must have the goal of realizing long-term growth and survival (Whyte, 2019). Given this, the company, in this case the Corporate Information Section as an information work unit, must also be able to adapt to developments in information technology.

Indonesian startups tasked with assisting Leaders in implementing information activities include special information, general information, multimedia and opinion counters in the environment company, very important role in publicizing and disseminating various activities and policies of the leader company to all employees company and society. The Company Information Section (Startup Indonesia) is an agency with a service base that cannot be separated from its efforts to provide the best service to the community. With limited employees who are superior, qualified, professional and competent in providing better public services, it is necessary to increase the quality and quantity of employees in carrying out their duties, so as to achieve the vision and mission of the Startup Indonesia company, namely encourage the effectiveness of information in building the corporate image in a manner optimal.

One of the factors affecting the performance of Indonesian startups in this study is the digitization of information systems (Santoso, et al., 2019). The purpose of digitizing the information system is to make it easier for employees to convey, provide, compile and explain information received by Startup Indonesia to be processed and used as information suitable for consumption by the public (Kohtamäki, et al., 2019). Digitalization is a term to describe the process of transferring media from print, audio and video to digital form. The function of digitizing information systems is made to make it easier to convey, provide, compile and explain information digitally (Amhag, et al., 2019). However, the phenomenon in the field of digitalization of information systems has not been carried out optimally, due to the limited number of employees and not having full knowledge of digital systems. Startup Indonesia employees have different educational backgrounds and ages, so it is not easy to provide learning and training about digitizing information systems.

In carrying out its work the information system requires good data center support. This data center is big data for the entire range of company information where all information can be accessed through the data center. Currently, Startup Indonesia is continuously making efforts to improve the Media Mobile Center (MMC) to improve function and quality from before. This is done to make it easier for stakeholders to apply it. However, the reality on the ground that MMC needs to be managed by employees who are competent, professional and excel in their fields.

THEORETICAL BASIS

Performance

The term performance comes from the word job performance or actual performance (performance or real achievement) which is related to all activities in a work organization (Hidayati & Luturlean, 2019; Ribeiro-Navarrete, et al., 2021). Furthermore, the notion of performance can be understood as a result of performance in accordance with the quality, quantity, efficiency and effectiveness achieved by an employee in carrying out his duties in accordance with the responsibilities given to him (Olatunde-Aiyedun, et al., 2021; Cirillo, et al., 2021) .

The study of performance should not be separated, because in order to properly understand organizational performance as a whole, unit performance and employee performance must also be understood (Gerten, et al., 2019). Likewise, employee performance can only be understood properly if unit performance and organizational performance where employees work can be understood. Employee performance can be said to be good and useful, if the performance is good and beneficial to the performance of the unit and the organization as a whole (Gal, et al., 2019; Popelo, et al., 2021). Following are the performance indicators according to Prawirosentono (Tulip, 2018).

1. Authority. It is the nature of a communication or order in a formal organization that belongs to a member to another member of the organization to carry out a work activity in accordance with his contribution. The command says what is permissible and what is not permissible in the organization.
2. Initiative. That is related to the power of thought and creativity in making ideas to plan something related to organizational goals.
3. Discipline. Comply with applicable laws and regulations. So, employee discipline is the activity of the employee concerned in honoring the work agreement with the organization where he works (Gigauri, 2020).

Data Center

Data Center is a facility that is used to place several sets of servers and related components, such as telecommunication systems and data storage (Soto Acosta, 2020). These facilities usually include redundant or backup power checkers, redundant data communication connections, environmental controls (e.g. air conditioning, ventilation), fire suppression and physical security devices (Gabryelczyk, 2020). Good data center

management is needed to support all the performance of the network, from application usage, therefore measurement rules and standards are important for Data Center administration (Kudyba, 2020; Peters, et al., 2020).

METHOD

This study uses a quantitative method which is a method to test certain theories by examining the relationship between variables with research instruments based on statistical procedures. In this study the authors carried out a survey using descriptive analytical method. The descriptive survey method is a research method that takes a sample from a population and uses a questionnaire as a means of collecting this data. In this study, data and information were collected from Indonesian Startup employee respondents using a questionnaire, then the results were presented descriptively and at the end of the study were analyzed to test the hypotheses proposed at the beginning of this study so that it would be known whether there was an effect of digitizing information systems and data centers on performance. Indonesian startup employees.

The research was conducted extensively on Indonesian Startup employees with the problem as the object of research being the limited knowledge and insight of employees in operating information technology related to the digitization of information systems and data centers for Indonesian Startups, so the variables in this study were Digitalization of Information Systems, Data Centers which affect Employee Performance Indonesian startups.

RESULT

Instrument Validity

Testing the validity of the instrument is to determine the degree of accuracy of the instrument to collect research data. This test was conducted to find out whether all research statements (instruments) proposed to measure research variables were valid. The type of validity used in this study is construct validity, which includes understanding the theoretical arguments that underlie the measurements obtained. Testing the validity in this study was calculated by computer using the SPSS program with the provision that if the statement correlation value is greater than 0.30 then the statement item is valid. The results of the Pearson correlation test showed that all research instruments had a

significant correlation value less than 0.05 and a correlation value greater than 0.30. In the validity test, the variables that have a good level of validity are flashlight data or information systems. This explains, if the company already has a good information system, so that it can help carry out work in a more coordinated and supervised manner.

Construct Reliability

The reliability test is used to find out whether the statements submitted to respondents will provide answers that tend to be consistent. The statements submitted are statements that have been tested as a whole and declared valid. A variable is said to be reliable if it gives a Cronbach alpha value > 0.60 . The results of the reliability test were carried out with Cronbach's Coefficient Alpha as the following results:

1. After calculating with the help of the SPSS program, the value of alpha (α) = 0.973 is obtained. This value is greater than 0.60 ($0.973 > 0.60$) so that it can be concluded that the statement items for the Information Systems Digitization variable are (trustworthy) and can be used in research.
2. After calculating with the help of the SPSS program, the value of alpha (α) = 0.971 is obtained. This value is greater than 0.60 ($0.971 > 0.60$) so that it can be concluded that the data center variable statements are reliable and can be used in research.
3. After calculating with the SPSS program, an alpha value of (α) = 0.959 is obtained. This value is greater than 0.60 ($0.959 > 0.60$) so that it can be concluded that the statement items for the performance variable are reliable and can be used in research.

Normality test

The normality test aims to see whether the research data is normally distributed or not. In this study, researchers used the Kolmogorov-Smirnov test to test the assumptions of data normality. A data is considered normally distributed if > 0.05 . Based on data processing with the SPSS application, a significant value was obtained from the information system and data center scale of 0.129. It was declared that the data was normally distributed if the significance value was > 0.05 , the results showed a significance value of $0.129 > 0.05$, it was stated that the data was normally distributed and assumed multiple linear regression fulfilled.

Heteroscedasticity Test

The heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residual of one observation to another. If the variance of the residual from one observation to another observation is different, it is called heteroscedasticity. In linear regression, the residual value should not have any relationship with the independent variable, this can be identified using the Glejser test. Based on the results of SPSS data processing, it is known that the significance value for information systems and data center variables is greater than 5% (0.05), namely 0.044 for information systems and 0.028 for data centers. This shows that there is a relationship between the variable X and the residual value, so there is no heteroscedasticity problem in this study.

Multicollinearity Test

Based on the results of the multicollinearity test using the SPSS program, it is known that the information system and data center variables have a VIF value below the number 10, namely 1,266, thus indicating no symptoms of multicollinearity between independent variables, so the collinearity level can still be tolerated, so that the regression assumptions are fulfilled. This means that there is no correlation between independent variables (digitalization and data center). In the absence of a correlation between these independent variables, it is hoped that the research results will be more accurate and significant so that they can be used as material for leadership considerations in determining policies to improve unit performance later in dealing with developments in information related to information for company progress.

Autocorrelation Test

The autocorrelation test is to see whether the members of the observations in the same independent variables are related to one another. If there is, then the model is less accurate in predicting, to detect the occurrence of autocorrelation is done by looking at the Durbin-Watson value. The test method with the Durbin-Watson test has several provisions; first, if d is less than dL or greater than $(4-dL)$ then the null hypothesis is rejected, which means there is autocorrelation. Second, if d lies between dU and $(4-dU)$ then the hypothesis is accepted, meaning that there is no autocorrelation. Third, if d lies between dL and dU or between $(4-dU)$ and $(4-dL)$, then it does not produce a definite conclusion. The results of SPSS data processing show that the DW value is 1.777, then

the DW value is compared with the significance table value of 5% with a sample size of 100, so the dU value is 1.711. The DW value of 1.777 is greater than the upper limit (dU) which is 1.711 and less than $(4-dU) 4 - 1.711 = 2.289$. So it can be concluded that there is no autocorrelation. This means that the independent variables (information systems and data centers) are not related.

Partial Test

The results of the regression test obtained the following research findings:

1. The digital work system has a significant effect on performance with a regression value of 0.266 and a significance value of 0.01, less than 0.05. Mathematically these findings are meaningful, there is a linear relationship between performance and digital work systems. If the digital-based work model is improved, there will be a tendency to increase performance. This happens, because employees are accustomed to using various digital applications/systems, so they adapt more quickly to the various software provided as work support tools (Hanelt, et al., 2021).
2. Center data-based work systems have a significant effect on performance with a probability value of 0.568 and a significance value of 0.00, less than 0.05. The data center is a work system centralization mechanism that is initiated by a centralized information system. So that various processes and work results reports are directly recorded and monitored by the system (Mehmood, 2021). The existence of a work system like this, provides a very large positive value, especially for monitoring the quality of work.

Simultaneous Test

Based on the Anova test, the calculated f value of 54.697 is greater than the tabular f value of 3.09. This finding confirms that in today's digital era, the application of digital-based work models and integrated information systems has become very relevant. Because the workers in this era, have become accustomed to the use of technology, so that it is very possible for the work process to be done more easily and quickly. In addition, the digital work base and flashlight data, create a faster work process.

Correlation Coefficient Test and Determination

The correlation coefficient value (R) shows how close the relationship between the independent variable and the dependent variable is, the magnitude of the correlation

coefficient value is 0.730. This value indicates that the relationship between the test of information systems and data centers on employee performance is 73.0%.

The value of the coefficient of determination (R^2) is used to measure how far the model's ability to explain the variation of the dependent variable. The results of the SPSS calculations obtained the value of $R^2 = 0.533$, which means that 53.3% of the performance variables can be explained by digitizing information systems and data centers while the remaining 46.7% is influenced by other variables outside the model studied.

CONCLUSION

The results of the study show that there is an increase in performance with a digital system work model. This happens, because the current era of work is inseparable from various technologies, so it is only natural that digital work systems can increase employee productivity/performance. Then, the data center-based work model, also known as the information system-based work model, also has a positive impact on improving performance. This condition occurs because it is supported by work tools that provide convenience, especially work applications. The use of various software in the implementation of work can help the effectiveness of communication, coordination and supervision.

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