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The Implementation of Patient Information System Technology on Employee Effectiveness in Chasbullah Abdulmadjid Hospital

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Abstract

This study aims to determine the effect of patient information system technology on the work effectiveness of employees of Chasbullah Abdulmadjid Hospital Bekasi City. This research is a quantitative study with a sample of 32 people. The results of the study indicate that the patient's information system technology has an influence on the work effectiveness of the employees of Chasbullah Abdulmadjid Hospital Bekasi City 84.6%. Based on the calculation of the coefficient of determination, the result is 71.5%, which shows the effect of patient information system technology on the work effectiveness of employees by 71.5% and the remaining 28.5% is influenced by other factors. Based on the calculation of simple linear regression analysis, the equation $Y = 6,046 + 0,842X$ is obtained, which shows that without the patient information system technology, the work effectiveness is 6,064. And if X increases by 1 point or every increase in patient information system technology by 1, it will increase the work effectiveness of employees by 0.842 and vice versa. And have a positive relationship.

Keywords: Information Systems, Performance Effectiveness.

1. Introduction

Nowadays developments in the field of information and communication technology have brought very important benefits for the advancement of human life. Various kinds of human activities that were previously done manually, are now replaced by automatic machine devices. The same thing can happen in the health sector. One of them is in terms of processing patient data in the hospital sector.

The application of Management Information System (SIM) technology for patient data information systems at Chasbullah Abdulmadjid Hospital, Bekasi City is a hospital management system that is currently being applied to almost all hospitals including Chasbullah Abdulmadjid Hospital in Bekasi City. The Management Information System which is implemented in Chasbullah Abdulmadjid Hospital in Bekasi City is an integrated information system and has sub-systems, namely patient data information systems, inpatient information systems, and financial information systems. The three sub-systems are integrated and interrelated so that they become an integrated management information system. With the integrated management information system facility, it is hoped that all patient registration processes, patient data, outpatient and inpatient and financial processes can run more easily and quickly and better so as to increase employee effectiveness.

Manpower or HR is a resource in an organization whose role is very important to achieve success. Human resources are closely related to performance in institutions, especially in terms of © Authors. Terms and conditions of this work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License apply. Correspondence: Sri Utami, *Universitas Bina Sarana Informatika*. Email: sri.sut@bsi.ac.id

quality of work. Improving the quality of human resources is very important and its implementation must be planned and carried out continuously. Increasing the quality of resources will not be achieved if management is not going well, so it is unable to encourage efforts to improve the quality of human resources.

2. Literature Review

Information technology is a technology that has functions in processing data, processing data, obtaining, compiling, storing, changing data in all kinds of ways to obtain useful or quality information. Understanding Information Technology. The term information comes from English "to inform" which means in Indonesian "to tell". In general, information can be interpreted as data that has been processed into a form that has meaning and is useful to humans. In other words, information is useful data that can be processed into information so that it can be used as a basis for making the right decisions.

Information Technology According to Williams and Sawyer (2003), it is argued that the notion of information technology is a technology that combines computing (computers) with high-speed communication lines that carry data, voice, and video. In the Oxford Dictionary (Kadir, 2003), information technology is defined as the study or use of electronic equipment, especially computers to store, analyze and distribute any information, including words, numbers and pictures. In general, Lucas (2000) states that information technology is any form of technology that is applied to process and transmit information in electronic form. According to Senn (2004), information technology is defined as a term that refers to things and expertise used in creation, storage, distribution.

In the information technology model, O'Brain (2008) states that information technology depends on human resources, hardware (hardware), software (software), data (data and basic knowledge) and networks (communication media and network support). Information technology includes computer technology (computing technology) and communication technology (communication technology) which is used to process and disseminate information, both financial and non-financial. Information technology in the company serves as a tool to achieve goals through the provision of information. Information technology success can be measured by four types of measures, namely user satisfaction, system use, decision performance, and organizational performance.

According to Thompson et.al. (2001), the use of information technology is what information system users expect in carrying out their duties, where the measurement is based on the intensity of use, the frequency of use and the number of applications or software used. The use of technology is also related to the behavior of using this technology in completing tasks. Theory of Reasoned Action (TRA) is a theory that deals with individual attitudes and behavior in carrying out activities. Someone will take advantage of information technology on the grounds that the technology will produce benefits for him. Sheppard et al. (1988) stated that TRA has been used to predict a behavior in many ways.

Work Effectiveness

Effectiveness is also often used to measure the success achieved by organizations or companies related to planned programs. The management of an organization or company is said to be successful if the goals or objectives set are able to be implemented and provide benefits for the company. The measure of effectiveness can be assessed by comparing the achievement of the objectives of an activity carried out and not regarding the costs incurred to carry out these activities (Danim, 2004).

Effectiveness according to Handoko (2006) states "Effectiveness is the ability to choose the most appropriate goals or the right equipment to achieve the goals that have been set". In line with

the opinion of Maulana & Rachman (2016) that "Effectiveness is defined as the ability of a unit to achieve the desired goals" (Robbins, 1996) "Effectiveness is the level of short-term and long-term organizational achievement". Schein (2010) says that "organizational effectiveness is the ability to survive, adapt and grow apart from certain functions it has". Based on the above opinion, it can be emphasized that effectiveness is a condition in which there is a match between the goals and objectives that have been previously set and the results achieved. Thus, effectiveness emphasizes how the desired results are achieved in accordance with a predetermined plan. In other words, the notion of effectiveness in general indicates to what extent a predetermined goal has been achieved (Rahadhitya & Darsono, 2015).

Work effectiveness is a condition where the expected or desired goals are achieved through the completion of work in accordance with a predetermined plan. The definition of effectiveness according to experts is as follows. according to Siagian (2007) effectiveness is the use of a certain amount of resources, facilities and infrastructure which is consciously determined in advance to produce a number of goods for the services of the activities carried out. Effectiveness shows success in terms of whether the targets have been achieved or not.

If the activity results are closer to the target, it means that the effectiveness will be higher. If it is observed that the effectiveness of work in an organization, both private and government, is aimed at the implementation process and the level of success of the activities carried out by the employees themselves. the activity in question is a business that can provide the greatest benefit to the organization. The terms effective and efficient are interrelated terms and should be lived in in an effort to achieve the goals of an organization. In principle, the individual effectiveness of its members in carrying out their duties in accordance with their respective positions and roles in the organization.

3. Methods

This research design is an explanative research type by observing / non-experimental because it explains the causal relationship between variables through hypothesis testing without giving treatment (Singarimbun, 2006) and with samples taken from a population and using a questionnaire as a tool. the principal data collector and is generally an individual unit of analysis. In this study, 32 employees were used as samples in Chasbullah Abdulmadjid Hospital in Bekasi City. The statistical tests carried out include: Validity Test, Reliability Test, Linear Analysis, Correlation Coefficient Test, Determination Coefficient Test, Hypothesis t-test and F-test, Data processing using SPSS 25.0.

4. Results and Discussion

Validity test

Instrument testing is done first before testing the hypothesis. This test uses Pearson Correlation. Valid items have a correlation coefficient value of more than (\geq) critical 0.30. 1) Test the validity of the Use of Information Technology variable the questionnaire test for the variable use of Information Technology was conducted on 32 respondents consisting of employees at Chasbullah Abdulmadjid Hospital in Bekasi City. From the scoring data, after the discrimination index test was carried out, the item of the questionnaire on the use of information technology with computation software SPSS 25.0 for windows was declared valid.

The results of the validity test of the Patient Information System Technology (X) variable can be seen in the following table:

Table 1. Validity Table

Variable	Indicator	R count	R table	Information
Computerized Systems (X)	X1	.546	0.3494	Valid
	X2	.724		Valid
	X3	.616		Valid
	X4	.650		Valid
	X5	.695		Valid
	X6	.629		Valid
	X7	.625		Valid
	X8	.684		Valid
	X9	.822		Valid
	X10	.611		Valid

The results of the validity test of the Work Effectiveness Variable (Y) can be seen in the following table:

Table 2. Work Effectiveness Table

Variable	Indicator	R count	R table	Information
Work Effectiveness (Y)	Y1	.760	0.3494	Valid
	Y2	.789		Valid
	Y3	.694		Valid
	Y4	.800		Valid
	Y5	.780		Valid
	Y6	.631		Valid
	Y7	.463		Valid
	Y8	.695		Valid
	Y9	.771		Valid
	Y0	.613		Valid

Based on the 2 (two) direction r test table with $N = 32 / df = 30$ with an error rate of 5% obtained 0.3494 Because the result of r count is greater than r table for an error rate of 5%, it can be concluded that the indicators on the work effectiveness variable are valid and can be used for this research.

Reliability Test

The instrument reliability test in this study used a confidence level of 95% or a level of significance (α) = 0.05. The instrument reliability test used Alpha Cronbach criteria.

**Table 3. Reliability Variable X (Patient Information System)
Reliability Statistics**

Cronbach's Alpha	N of Items
.901	10

Based on the results of the reliability test above, it is known that the Cronbach's Alpha value is 0901. The lift is greater than the minimum value of Cronbach's Alpha 0.6, therefore it can be concluded that the research instrument used to measure the variables of the computerized system can be said to be very reliable or very reliable and the research can be continued.

Table 4. Reliability Variable Y (Work Effectiveness)

Reliability Statistics	
Cronbach's Alpha	N of Items
,917	10

Based on the results of the reliability test above, it is known that the Cronbach's Alpha value is 0.917. continued for research.

Correlation Coefficient Test

Hypothesis:

H0: There is no significant relationship between Patient Information system technology to work effectiveness

H1: There is a significant relationship between Patient Information system technology to work effectiveness

Testing criteria

If significant > 0.05 then H0 is accepted

If significant < 0.05 then H0 is accepted

Table 5. Correlation Coefficient Test

		Technology Systems	Work Effectiveness
Technology Systems	Pearson Correlation	1	,846**
	Sig. (2-tailed)		,000
	N	32	32
Work Effectiveness	Pearson Correlation	,846**	1
	Sig. (2-tailed)	,000	
	N	32	32

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the table above, the information obtained first shows the relationship between the patient's information technology system variable and the employee's work effectiveness with the Pearson correlation coefficient of .846 ** (0.846), this is close to 1, which means that the correlation between patient information system technology and employee work effectiveness is very strong. The ** sign (two stars) means a significant correlation at a significance level of 0.00 and has a 2-tailed possibility, see the explanation position below the table.

Determination Coefficient Test

To determine the influence of patient information system technology on the work effectiveness of employees at the Rawasari urban village office, Central Jakarta, the coefficient of determination test is used.

The results obtained from processing through SPSS 25.0 are as follows:

Table 6. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,846 ^a	,715	,706	2,459

a. Predictors: (Constant), Technology Systems

Based on the results of processing through SPSS 19.0, it can be seen that the value of R Square is 0.715 or 71.5%, which means that the patient information system on the effectiveness of employees at Chasbullah Abdulmajid Hospital in Bekasi City is 71.5% and the rest is influenced by other factors.

Test of Regression Equations

Table 7. Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,046	4,202		1,439	,161
	Technology Systems Patient Information	,842	,097	,846	8,684	,000

a. Dependent Variable: Work Effectiveness

Based on the table above, it can be seen that the significant value is 0.000 < 0.05, the decision is that H0 is rejected, H1 is accepted, then the conclusion is that the regression equation is significant so that the regression equation is:

$$Y = 6,046 + 0.842X$$

Where:

Y = Employee Work Effectiveness

X = Patient Information Technology Systems

This means that if X = 0 or without the patient information system technology, the employee's work effectiveness is 6.046 and if X increases by 1 point or every increase in patient information system technology by 1 it will increase the work effectiveness of employees by 0.842 and vice versa. This shows a positive relationship between computerized systems on employee work effectiveness.

Table 8. ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	455,878	1	455,878	75,418	,000 ^b
	Residual	181,341	30	6,045		
	Total	637,219	31			

a. Dependent Variable: Work Effectiveness

b. Predictors: (Constant), Technology Systems

From the ANOVA table above, the following hypothesis can be made:

Ho = There is no influence between patient information system technology on employee work effectiveness

H1 = There is an influence between patient information system technology on employee work effectiveness.

To draw conclusions, we need an F distribution value (F table value) provided that:

- significance level of 0.05
 - df Between Groups = number of variables = 1
 - df Within groups = number of data - number of variables = 30
- obtained the value of F = 4.20

The decision criteria are:

If F count > Ftable then Ho is rejected

If F count < Ftable then Ho is accepted

From the data above, it is obtained that F count is 75.418 because $32,874 > 4.17$, then Ho is rejected, so using the 0.05 significance level it can be concluded that there is an effect of patient information system technology on employee work effectiveness. In making decisions based on the probability value (p-value) listed in the Sig. If the probability > 0.05 then Ho is accepted, conversely if the probability < 0.05 then Ho is rejected. From the data above, it is obtained a probability of 0.000, because $0.000 < 0.05$ then Ho is rejected, meaning that there is an influence between patient's information system technology on employee work effectiveness.

5. Conclusion

From the results of the calculation of the correlation coefficient, the result is 0.846 which indicates that there is a very strong relationship between patient information system technology and the work effectiveness of employees at Chasbullah Abdulmajid Hospital in Bekasi City. Based on the calculation of the coefficient of determination, the result is 71.5%, which shows the effect of patient information system technology on the work effectiveness of employees by 71.5% and the remaining 28.5% is influenced by other factors. Based on the calculation of simple linear regression analysis, the equation $Y = 6,046 + 0.842X$ is obtained, which indicates that without the patient information system technology, the work effectiveness is 6,064. And if X increases by 1 point or every increase in patient information system technology by 1, it will increase the work effectiveness of employees by 0.842 and vice versa. And have a positive relationship.

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