Evaluation of Primary Care Application Users in the First Class Clinic in Pekanbaru District on Human, Organization and Technology Factors Using the EUCS Method

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***Abstract*—The success of an organization's information system depends on the implementation of the system, the ease of the system for the users, and the utilization of the technology used. Program evaluation is essential and useful, especially for decision makers. User's satisfaction of Primary Care application is a necessity to ensure the performance of service reporting to BPJS. To measure the satisfaction level of the Primary Care application, the End-User Computing Satisfaction (EUCS) method is applied. The study aims to find out the correlation between human, organization, and technology toward EUCS (End User Computing Satisfaction at First-Class Clinics, Pekanbaru). This type of research is quantitative cross sectional research with Primary Care information system as the object. The variables studied were HOT (human, organization, and technology) independent variable and EUCS dependent variable (End User Computing Satisfaction). The research subject is Primary Care information system operator with a sample of 89 pre-existing clinics in Pekanbaru district which were taken in total sampling. The result of the study shows that human has a significant positive effect on Computing Satisfaction with p value 0.000, technological factors with p value 0.001 and organizational factors with p value 0.020. Conformity between components of the HOT model is broadly appropriate, but there needs to be improvement and refinement as to increase the quantity of conformity between these components.**

Keywords— HOT, EUCS, Primary Care, First-Class Clinics

I. INTRODUCTION

The rapid technological development has caused all levels of society to keep up with the development, in this case, including developments in the world of health. The health development leads to the development of information technology. The National Social Security System (SJSN) is a valid Social Security system in Indonesia. SJSN is organized through compulsory social health insurance under Law No.40 of 2004 concerning the National Social Security System. The aim is that all Indonesian citizens be protected in the insurance system, so that they can meet the basic needs of proper public health [1].

National Health Insurance (JKN) system is organized by the Social Security Administrator (BPJS). In providing its services, BPJS for Health collaborates with health facilities throughout Indonesia [1]. BPJS for Health is a legal entity formed to organize a health insurance program. BPJS for Health began operations in Indonesia on January 1, 2014. BPJS for Health is mandatory, meaning that all Indonesian residents are required to participate in the participation of BPJS [1].

The concept of service for the National Health Insurance System in Indonesia currently divides into three service structures, i.e. primary, secondary and tertiary services. The JKN system developed a tiered service concept with First Level Health Facilities (FKTP) consisting of Community Health Center, Doctor's Office, Dentists, First-Class Clinics or equivalent, and Class D Hospitals or equivalent as the gate keepers (Christasani, 2016). First-Level Health Facilities (FKTP) are health facilities that conduct individual non-specialist health services for the purposes of observation, diagnosis, care, treatment and/or other health services [2].

Based on the latest data from BPJS in August 2018, there were 5537 million people who used First-Class Clinics as their primary health service before going to higher service. All primary services use this P-Care system to access data on BPJS participants who become service patients, and to report services performed online. Through the P-Care application planted in each FKTP, it is expected that the number of visits and referral numbers can be well monitored, so that the quality of service from FKTP can be continuously monitored and evaluated annually[1].

The results of the preliminary survey on five first-level health facilities showed that there were still problems with the use of p-care information systems, including system errors, changing database of participants, and unnecessary outputs. Unclear organizational structures and SOPs also became internal problems of health facilities. EUCS is the overall evaluation of the information system used by system users in connection with the usage experience of the information system. The EUCS model is used to measure user satisfaction to information systems. The information system of an organization can be relied upon if it has good quality and is able to provide satisfaction to its users. By the user satisfaction, acceptance will occur on the information system used in the organization. Given the importance of

user satisfaction, which is one indicator of the success of information system development, we are therefore interested in taking the title of the study "Evaluation of Primary Care Application Users in the First Class Clinic in Pekanbaru District on Human, Organization and Technology Factors Using the EUCS Method".

II. MATERIALS AND METHODS

This type of research is cross-sectional quantitative research with Primary Care information system as the object. The variables studied were the HOT (human, organizational, and technological) dependent variable towards the EUCS (End User Computing Satisfaction) independent variable. The research subjects were primary care information system operators with a sample of 89 first-class clinics in pekanbaru, obtained using total sampling. The research instrument used a questionnaire. Data analysis was conducted in three stages, namely univariate, bivariate, and multivariate analysis. The analysis was carried out using the multivariate regression test.

III. RESULTS AND DISCUSSIONS

RESULT

Respondent Demographic Analysis

To find out the distribution of respondents' demographics in this study, the respondents were categorized by sex, age, recent education and length of work as shown in the following table 1:

Table 1. Respondent Demographic Analysis

Demographic		Total	Percentage
Gender	Male	33	37%
	female	56	63%
Age	≤ 20 year	28	31%
	20-30 year	31	35%
	30-40 year	26	29%
	≥40 year	4	4%
Last Education	SLTA	34	38%
	D3	43	48%
	S1	12	13%
Length of Work	1-5 year	41	46%
	5-10 year	17	19%
	≥10 year	31	35%

Source: 2019 Processed Results

Based on the table above, the majority of respondents were women with a percentage of 60% while men with a percentage of 40%. On age, the majority of respondents are at the age of 20-30 years with a percentage of 39% and under 20 years with a percentage of 35%, indicating the majority of the age of workers are in productive age. Based on recent education, the majority of respondents 52% had Associate's Degree, while for the length of work, the majority of respondents worked more than 10 years as much as 43%.

Validity and Reliability Test

Table 2. The result of Validity dan Reliability test

Variable	Sub Indicator	Indicator	Corrected Item Total Correlation	Cronbah Alpha
Human	knowledge	X1.1	0.348	0.826
		X1.2	0.601	
		X1.3	0.615	
		X1.4	0.349	
	attitude	X1.5	0.575	
		X1.6	0.450	
		X1.8	0.650	
	Actions of using information systems	X1.9	0.439	
		X1.10	0.564	
		X1.12	0.545	
Organizing	Leadership	X2.1	0.769	0.908
		X2.2	0.760	
		X2.3	0.518	
		X2.4	0.482	
	Planning	X2.5	0.592	
		X2.6	0.650	
		X2.7	0.717	
		X2.8	0.704	
	Policy	X2.9	0.631	
		X2.10	0.539	
		X2.11	0.659	
		X2.12	0.787	
Technology	Service Quality	X3.1	0.438	0.771
		X3.2	0.471	
		X3.3	0.495	
	System quality	X3.5	0.524	
		X3.6	0.587	
	Infomation quality	X3.8	0.452	
		X3.9	0.489	
		X3.10	0.392	
Computing Satisfaction	Content	Y1.1	0.575	0.864
		Y1.2	0.302	
		Y1.3	0.620	
		Y1.4	0.467	
	Accuracy	Y1.5	0.612	
		Y1.6	0.485	
		Y1.7	0.479	
		Y1.8	0.56	
	Format	Y1.10	0.287	
		Y1.12	0.392	
	Ease of Use	Y1.13	0.366	
		Y1.14	0.544	
		Y1.15	0.419	
		Y1.16	0.338	
	Timeliness	Y1.17	0.544	
		Y1.18	0.497	
		Y1.19	0.479	
		Y1.20	0.56	

The validity test showed how valid and corresponding each question attribute of the service quality in this study is feasible to proceed to the next test. The results of the validity test in table 2 showed the number of corrected item total correlation of all HOT, computing satisfaction and performance variables are at > 0.3, thus can be declared valid. The fulfillment of the validity number was carried out

after issuing several invalid question items so that it can proceed to the next analysis (Hair et al. 1988). The reliability test also showed the suitability of question attributes on each variable HOT, computing satisfaction and performance where the result of cronbach alpha show > 0.6, meaning that all variables in this study are reliable [3].

Classic Assumption Test

Normality Test

Some of the normality test methods are by looking at the data transmission on the diagonal source of the diagonal chart at the normal graph of P-P Plot of Regression standardized residual or by the the one sample Kolmogrov Smirnov test. In the Normal P-plot, the data is said to be normal if there is a spread of points around the diagonal line with the spread following the direction of the diagonal line. If the data spreads around the Normal line and follows the direction of the normal line, the regression model meets the Normality assumption

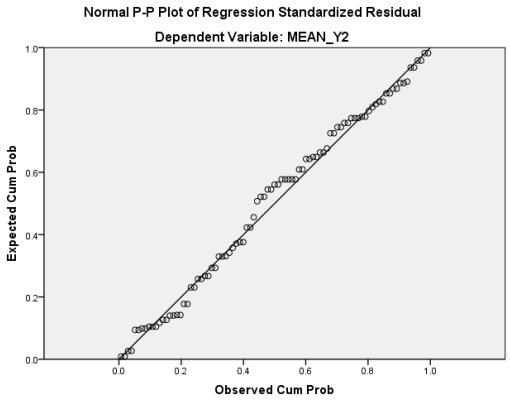

Figure 1. The results of normality test

The results of normality test indicated that the results of the points were not far from the diagonal line. This means that the regression model was normally distributed.

Heteroscedasticity test

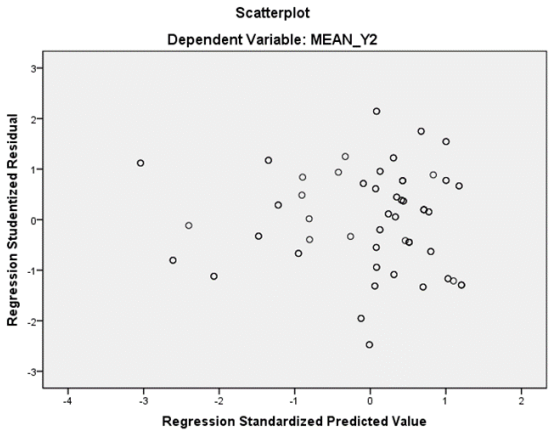

Figure 2. The result of Heteroscedasticity test

According to Imam Ghozali (2011) heteroscedasticity test aims to test whether the regression model occurs in a variance and residual inconsistency in one observation. There are several ways that can be done to test heteroscedasticity, namely plot graph test, park test, glesjer test, and white test. The test in this study uses the plot graph between the predicted value of the ZPRED dependent variable and the SRESID residual. There is no heteroscedasitivity when there are no clear patterns, and the points spread above and below the number 0 on the Y axis. The heteroscedasticity test results showed no clear pattern and these points spreaded above and below the Y axis. This shows that the regression model has no symptoms of heteroscedasticity, which means that there is no interference in the regression model [4].

Multicollinearity test

Imam Ghozali (2011), states that this test aims to determine whether the regression model found a correlation between independent variables. A good regression model should not occur correlation between independent variables, if the independent variables correlate with each other, then these variables are not orthogonal. Testing presence or absence of multkolinearity in the regression model can be determined from the tolerance value and variance inflation factor (VIF). If the VIF value is> 10, multicollinearity occurs. Preferably, multicollinearity does not occur if VIF <10 [4].

Table 3. The result of Multicollinearity test

Variable	Tolerance	VIF	Information
X1	0.486	2.057	There is no multicollinearity
X2	0.524	1.907	There is no multicollinearity
X3	0.653	1.532	There is no multicollinearity

Source: SPSS Results

The test results showed that the VIF value is quite small, where all are below 10 and the tolerance value is more than 0.1. This means that the independent variables used in this study do not indicate the presence of multicollinearity.

The Model Test

The F test

The F test in this study aimed to find out the effect of Brand Image, Service Quality and Lifestyle on Purchasing Decisions. In this F test, the value used is the F value and the Sig value contained in the ANOVA table presented below in the table 4.

Table 4. The result of F test

Model	F_{count}	F tabel	Sig	Information
X_1, X_2, X_3 to Y	11.385	4.02	0,000***	X1, X2, X3 has an effect on Y with a value of Sig<α = 0.01

Source: SPSS Results

The null hypothesis (Ho) used in this test showed that there is no influence between the independent variables on the dependent variables. While the alternative hypothesis (Ha) showed that there is an influence between the independent variables on the dependent variable.

Based on the results of table 4, the value of F count is 143,242 and the value of Sig. in the ANOVA table of 0,000. We calculate the value of F calculated with the F table calculated is equal to 4.02, which shows that the calculated F

value is greater than F table. This result means ha or the alternative hypothesis used is accepted. The second method is to compare the sig values. in the ANOVA table with a significant value of 0.000, with the result that the sig. value of the ANOVA table has is smaller than the predetermined significant value of 0.01. From the results of the sig, it can be interpreted that alternative hypotheses are accepted, which means that HOT variables have a significant effect on computing satisfaction.

Coefficient of Determination Test

The value used in the coefficient of determination is the Adjusted R Square value. This value is used to measure how much the ability of the model to explain the dependent variable. The Adjusted R Square value used is obtained from the summary table model in Table 5:

Table 5. Coefficient of Determination Test (R2) Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.535a	.287	.261	.44168

Source: 2019 Processed Results.

Adjusted R Square value in table 5 is 0.287 which means 28.7%. This means that the variation of the dependent variable that is explainable by the independent variable is 28.7%, while the remaining 72.3% is explained by other variables not included in the regression model in this study.

Multiple Linear Regression Test

In determining the variable number of Brand Image, Service Quality and Lifestyle on consumer purchasing decisions fragrant tea in Indonesian Pelita students, multiple linear regression analysis was applied. The results of the Multiple Linear Regression test can be seen in the table as follows:

Table 6. The Result of Multiple Linear Regression Test

Model	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
(Constant)	1.119	.526	
Human	.103	.158	.086
Organization	.155	.126	.156
Technology	.387	.117	.375

Source: 2019 Processed Results

Based on table 6 above, the multiple linear regression equation in this study are:

$$Y= 1.119 + 0{,}103\ X1 + 0{,}155\ X2 + 0.387\ X3 + e$$

The multiple linear regression equation above can be explained as follows:

- Multiple linear regression obtained the constant value (α) of 1.119, which means if the human, organization and technology variable is 0, then the Purchase Decision value is 1,119 units.
- The value of the multiple variable linear regression coefficient is 0.013, meaning that if the other independent variables remain and the human variable has a 1 unit increase, the computing satisfaction variable will increase by 0.103 units. Positive coefficient means a positive relationship, where high human variables will enhance computing satisfaction.
- Multiple linear regression coefficient value of organization variable is 0.155, which means that if the other independent variables remain and the organization variable has a 1 unit increase, then the computing satisfaction variable will increase by 0.155 units. Positive coefficient means a positive relationship, where high organization variables will enhance computing satisfaction.
- The value of multiple linear regression coefficient of technology is 0.387, which means that if the other independent variables remain and the technology variable has a 1 unit increase, then the computing satisfaction variable will increase by 0.387 units. Positive coefficient means a positive relationship, where high technology variables will enhance computing satisfaction.

Hypothesis Test (T-Test)

This t-test is intended to determine the effect of partial (individual) independent variables namely Human, Organization and Technology on the dependent variable, namely the Computing Satisfaction. This test uses the coefficients table which will be presented in Table 7 below:

Table 7. The Result of Hypothesis Test

Model	T count	T table	Sig	Information
Human	2.656	1.662	0.014**	Significant influence with α 0,05
Organization	2.236	1.662	0.020**	Significant influence with α 0,05
Technology	3.308	2.371	0.001***	Significant influence with α 0,01

*Note. ** sig at α 0.05 and *** sig at α 0.01*

Based on table 7, the results of hypothesis test in determining the influence of independent variables and partially dependent variables are as follows:

H1. Human variables have a significant positive effect on Computing Satisfaction with a significance level of 5% and t-count to 2,656.

H2. Organizing variables have a significant positive effect on Computing Satisfaction with a significance level of 5% and t-count to 2.236.

H3. Technology variables have a significant effect on Computing Satisfaction with a significance level of 1% and t-count to 3,308.

DISCUSSION

Correlation between human and EUCS

Based on the results of the regression test, the p value is 0.014. This shows a meaningful relationship between human factors and the satisfaction level of Primary Care at the first-class clinics in Pekanbaru in 2019. Human variables have significant positive effect on Computing Satisfaction with a significance level of 5% and t-count to 2,656.

Human Components assess information systems in terms of system use at the frequency and the extent of functions and information system investigations. System use also relates to who uses it, the level of user, training, knowledge, expectations and attitudes of acceptance or rejecting the system. This component also assesses the system from the aspect of user satisfaction. User satisfaction is relatable to the perception of usefulness and user attitudes towards information systems influenced by personal characteristics [5].

There are two important components in human, namely: (a) System use; refers to the frequency and scope of the use of system functions, training, knowledge, expectations, and acceptance or rejection. (b) User Satisfaction; is an overall evaluation of user experience in using information systems and the potential influence of information systems. User satisfaction relates to knowledge of system utilization and user attitudes about information systems 21 influenced by user characteristics [6].

This is in line with the research conducted by Murnita, R., Sediyono, E. and Purnami, CT, 2016 where it stated that human factors are caused by the lack of training and poor compliance of staff on the SOP which causes delays in correction if something goes wrong with system. Furthermore, the results of this study stated that human factors are closely related to the organization. In accordance to the research results of Prasetyowati, A. and Kushartanti, R., 2018, although human factors show no problem, training still needs to be improved.

From the results of the research conducted, the researchers argue that the more precise and good the quality of the technology applied to humans, the more useful a system is due to satisfaction in terms of its use. Therefore, training is needed to improve the quality and use of information systems in terms of knowledge, attitudes and IT users towards the use of Primary Care application.

Correlation between Organization and EUCS

Based on the results of the regression test, the p value is 0.020. This shows a significant relationship between the factors of organization and the level of satisfaction of Primary Care use at the first-class clinics in Pekanbaru in 2019. Variable organizations have significant positive effect on Computing Satisfaction with a significance level of 5% and t-count of 2,236.

The Organization components evaluate the system from the organizational structure and organizational aspects. The organizational structure consists of types, culture, politics, hierarchy, system planning and control, strategy, management and communication. While the organizational environment consists of funding sources, government, politics, competition, inter-organizational relations and communication [5].

The driving factors in the organization aspect are leadership and supervision, compliance with regulations, and support from colleagues. While the inhibiting factors are lack of leadership at the work unit level [7].

This is in line with research conducted by Guimares and Ramanujam (1996); Lee (1986); Strassman (1985) in Nur Indriantoro (2000), finding that the application of IT in an organization encourages revolutionary changes in individual behavior at work, and in the context of PC use, the possibility of someone having confidence that using computers will provide benefits for themselves and their work [8]

From the results of the research, the researchers argue that there are still many in the first-class clinics in Pekanbaru. This can be achieved through strategy and management such as leader support, teamwork, and forming an effective communication by involving the roles and abilities of employees. Providing suitable information for the workforce and all parties involved is applicable in order to motivate and encourage acceptance and general understanding in the hospital's efforts in enhancing the use of p-care applications.

Correlation between Technology and EUCS

Based on the results of the regression test, p value is 0.001. This shows a meaningful relationship between organizational factors and the level of satisfaction of Primary Care use at the first-class clinics in Pekanbaru in 2019. Variable technology influences positive significance on Computing Satisfaction with a significance level of 5% and t-count to 3,308.

Technology components 25 consists of system quality, information quality and service quality. The quality of the system in information systems of health care institutions concerns the performance of the system and the user interface. Ease of use, ease of learning, response time, usefulness, availability, flexibility are variables or factors that can be assessed from the quality of the system. Applicable criteria in assessing the quality of information include completeness, punctuality, availability, relevance, consistency, and data entry. While Service quality is assessable through the response speed, assurance, empathy and follow-up services [5].

The driving factors in the aspect of technology are the accuracy and availability of the information, as well as positive perceptions of the use of technology. While the inhibiting factors are technical problems, unintegrated information, the available modules do not meet the user needs, and the information produced do not meet the user needs [7].

According to research conducted by DeLone, W., and McLean E.R. (2003), Gita Gowinda Kirana (2010), Abdul Latif (2010), Stacie et al (2008), dan Masrek et al (2010), system quality, information quality, and service quality have an influence on system usage and user satisfaction, meaning that the quality of the system, information and service will increase system use and user satisfaction [9,10,11,12,13]

This is in accordance to the results of research conducted by Septianita et al. in 2014, stating that there is a positive influence between system quality, information quality, and service quality on user satisfaction. Likewise with the research conducted by Nurhapsari in 2013, stating that the information system service quality has a significant effect on the satisfaction of end-users of information systems, information system quality has a significant effect on end-user satisfaction of information systems, and information quality has a significant effect on end-user satisfaction of information system [14,15].

From the results of the research conducted, the researchers argue that the first-class clinics in the city of Pekanbaru need to improve the aspects of service and information to produce better quality

IV. CONCLUSION

Based on the results of the study, it was found that respondents who stated human had a significant positive

effect on Computing Satisfaction with p value 0.000, technology factors with p value 0.001 and organization factors with p value 0.020. The conformity between the components of the HOT model is broadly appropriate, but there needs to be improvement and refinement in order to increase the quantity of compatibility between the components.

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