

The Effect of Effectiveness Online Registration System at the Outpatient Polyclinic During the Covid-19 Pandemic

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ABSTRACT

Online registration with the whatsapp system based on the survey results there are still shortcomings in the online registration service in the online registration service so it is necessary to increase using human resources through technological advancement will also help the service in an integrated manner. This research is determining the effectiveness of the online registration system at Sundari Hospital. Cross-sectional quantitative research is the type of study that was used. This study was carried out at the Sundari General Hospital Medan. The population in this study was all patients in the polyclinic room of Sundari General Hospital Medan which amounted to 60 people and all of them were sampled. The data collection instrument uses questionnaires that are distributed directly to respondents. Data analysis using univariate, bivariate and multivariate analysis using simultaneous tests (F-test). Research known that the results of the Chi-Square test on the quality of service to the effectiveness of the online registration system obtained P-Value = 0.000, System Quality to the effectiveness of the P-Value 0.000, the quality of security to the effectiveness of the online registration system P-Value 0.006. Based on the results of the simultaneous test (Test F) a p-value of 0.000 was obtained. In this study, there is an influence simultaneously or simultaneously between the quality of service, system quality, quality of security on the effectiveness of the online registration system at the outpatient polyclinic during the Covid-19 pandemic at the Sundari General Hospital.

Keywords: Online Registration, Covid-19, Hospital

INTRODUCTION

Each hospital is accountable for receiving health services in the primary health service sector of today. The values and expectations of the people who will use the health services dictate its existence and level of quality. In addition, it is crucial to place an emphasis on providing high-quality services at reasonable prices (Ely, 2007). Efforts to increase effectiveness are a form of measurement of the company's success in managing its business. Effectiveness is a form of target that must be achieved so that the programs set can run in accordance with the clauses stating that the link between output and desired results is called effectiveness (effect). The achievement of objectives or the quality of a target are essentially tied to its effectiveness (Mahsun, 2006).

Right now, the world or Indonesia is experiencing an outbreak of the COVID-19 virus. A group of viruses known as coronaviruses can infect both humans and animals and cause disease. Humans can contract a variety of respiratory tract illnesses from colds and coughs to more severe conditions like Middle East Respiratory Syndrome (MERS) and severe acute respiratory syndrome thanks to coronaviruses (SARS). A coronavirus type that causes the infectious disease COVID-19 was identified around the end of 2019. COVID-19, which is currently spreading globally in hundreds of countries in the world, is one of the pandemics that has caught the world's most attention. As of May 8, 2020, according to the World Health Organization (WHO) report, there were 3,759,967 cases globally and claimed 259,474 lives in 212 countries. In Southeast Asia alone, the number of COVID-19 cases has totaled 86,294 cases with a total death toll of 3,075 people (Covid, n.d).

Given these problems, hospitals are required to create procedures so that patients do not wait long when they want to get services as well as to be able to carry out the implementation of the new normal. government. E-Government is the process of utilizing information technology as a tool to run systems with the aim of being more efficient (Afdoli, 2019). According to the WHO

(World Health Organization) a hospital serves as a hub for providing health services, including prevention, healing, and training facilities, as well as socio-biological research. It is an integrated institution from the social and medical domains. A hospital is a facility that offers comprehensive personal healthcare services, including inpatient, outpatient, and emergency care (Herrera et al., 2019).

Sundari General Hospital is a private hospital in the Medan area, North Sumatra Province, located at Jalan Pinang Baris No.31 Medan. This hospital was founded by Mr. H. Usman with a type C classification which has received a class designation from the Ministry of National Health through the Decree of the Minister of Health Number YN.02.04.4.5963. In 2019, based on a survey conducted at Sundari General Hospital, an online registration system was implemented using the WhatsApp application before the COVID-19 pandemic (Rsu, n.d.). Based on the results of an initial survey conducted by the author at Sundari Hospital by conducting interviews with 10 patients at the Sundari Hospital Registration Unit, and asking about the effectiveness of online registration with the WhatsApp system.

So based on the results of the interviews that have been conducted, where 3 patients said there were problems such as a lack of understanding of using cellphones as well as delays in response from registration officers and 7 patients said online registration was very helpful in saving time, service and security. From the results of the survey there are still deficiencies in the online registration service, in order to attain effective and efficient, transparent, and responsible management, it is required to improve the quality of human resources through the development and exploitation of technology, which will also support public services in an integrated manner. The effectiveness of health care will increase with the usage of information technology. Thus, to apply this technology in its implementation, of course there are many effects of effectiveness encountered, for example system quality, security quality, service quality. Based on this background, the authors are interested in conducting research related to "The Influence of the Effectiveness of the Registration System at the Outpatient Polyclinic During the COVID-19 Pandemic at Sundari General Hospital in Medan".

METHODS

Quantitative research is the type of research design employed in this study. By analyzing the relationship between variables, quantitative research employs methodologies for evaluating specific hypotheses. In order to ascertain the effectiveness of the online registration system at the outpatient polyclinic during the COVID-19 pandemic at Sundari General Hospital Medan, the study's design employed an analytical survey with a cross-sectional approach (8). In Sundari General Hospital Medan, located on Jln. T.B. Simatupang, this study was carried out.

Patients in the polyclinic at Sundari General Hospital Medan made up the study's population. According to the data collected, there were 60 study participants in the polyclinic room. A total of 60 respondents were employed in the sample process for this investigation. The data collection instrument used a questionnaire which was filled in directly by the respondent. The research data were then analyzed using univariate and bivariate analysis using the chi-square test and then presented in the form of frequency distribution tables and cross tabulations.

RESULTS

Characteristics of Respondents

Based on table 1 shows the gender characteristics of the respondents, it can be seen from the number of 60 respondents who were male, there were 30 respondents (50.0%) and women as many as 30 respondents (50.0%). Age characteristics of the respondents, 60 respondents show that there were 14 respondents (23.3%) between the ages of 17 and 25, 21 respondents (35.0%) between the ages of 26 and 35, 10 respondents (16.7%) between the ages of 36 and 45, and 11 respondents (18.3%) between the ages of 46 and 55, 4 respondents (6.7%) aged 56-65 years. Characteristics of the last respondent's education, can be seen from the number of 60 respondents who had elementary school education as many as 11 respondents (18.3%), Middle School as many

as 10 respondents (16.7%), Up to 26 respondents (43.3%) from high school and up to 13 (21.7%) from S1. The characteristics of the work of the respondents, can be seen from the number of 60 respondents as many as 35 respondents (58.3%) were self-employed, as many as 7 respondents (11.7%) worked as laborers/farmers, as many as 3 respondents (5.0%) as students, as many as 5 respondents (8.3%) work as housewives, and as many as 10 respondents (16.7%) do not work.

Table 1 summarizes the characteristics of respondents in the Sundari Hospital in Medan's outpatient unit.

Characteristics	Total	
	f	%
Gender		
Male	30	50.0
Female	30	50.0
Age's		
17-25 years	14	23.3
26-35 years	21	35.0
36-45 years	10	16.7
46-55 years	11	18.3
56-65 years	4	6.7
Last Education		
SD	11	18.3
SMP	10	16.7
SMA	26	43.3
S1	13	21.7
Work		
Entrepreneur	35	58.3
Laborers/Farmers	7	11.7
Student / Student	3	5.0
Housewife	5	8.3
Doesn't work	10	16.7
Total	60	100

Univariate Analysis

Table 2 shows that the opinion of respondents on the variable service quality of the 60 respondents with a Yes opinion was 54 people (90.0%), and no as many as 6 people (10.0%). Respondents' opinions on system quality variables from 60 respondents with Yes opinions were 58 people (96.7%), and no as many as 2 people (3.3%). Statements of security quality that have different values. Table 4.10 shows that the opinion of the respondents on the variable quality of security of the 60 respondents with a Yes opinion was 60 people (100.0%), and no as many as 0 people (0.0%). Respondents' opinions on the effectiveness variable from 60 respondents with Yes opinions were 51 people (85.0%), and no as many as 9 people (15.0%).

Table 2. Distribution of Respondents According to the Quality of Service at the Outpatient Unit of Sundari Hospital in Medan

Variable	Total	
	F	%
Quality of Service		
Yes	54	90.0
No	6	10.0
Quality of System		
Yes	58	96.7
No	2	3.3

Quality of Security		
Yes	60	30.0
No	0	0.0
Effectiveness		
Yes	51	15.0
No	9	5.0

Classical Assumption

To identify certain inconsistencies in the research data, the classic assumption storage test was conducted. A statistical criterion for multiple linear regression analysis using Ordinary Least Square (OLS) is the classical assumption test (Sunjoyo, 2013).

Test of Normality

The purpose of the normality test is to determine whether confounding errors and residuals with a normal distribution are correlated in a linear regression model. The residual values are thought to follow a normal distribution in the t test and F test. The Kolmogorov-Smirnov One Sample test was used to determine whether the data had a normal distribution. If the significance value is greater than 5% or 0.05, the data are considered to have a normal distribution (Ghozali, 2016).

Table 3 Research Normality Test at Outpatient Polyclinic at Sundari General Hospital Medan
One-Sample Kolmogorov-Smirnov Test

N	Residual Unstandardized	
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.73026900
Most Extreme Differences	Absolute	.104
	Positive	.083
	Negative	-.104
Statistic Testing		.104
Asymp Sig. (2-tailed)		.168

The Asymp.Sig.(2-tailed) value for the residual value is 0.168, which shows that the significance value is > 0.05 , according to table 3 of the normality test findings from the study with Kolmogorov-Smirnov at the Outpatient Polyclinic at Sundari General Hospital Medan. So, it may be said that the regression model satisfies the assumption of normality and that all of the study's data are normally distributed.

Heteroscedasticity Test

Explaining the heteroscedasticity test as follows: " It is also required to check whether the variance of the residuals from one observation is equivalent to that of another in the multiple regression equation. Homoscedasticity refers to when the variances of the residuals are the same, whereas heteroscedasticity refers to when the variances are not the same or are different. The conclusion is that there are no signs of heteroscedasticity in the regression model if the sig value is greater than 0.05 (Sunyoto, 2016).

Table 4 Research Heteroscedasticity Test at Outpatient Polyclinic at Sundari General Hospital Medan

Model	Coefficients ^a	Non-standard B	Coefficients Std. Error	Beta Standardized Coefficients	t	Sig.
1	(Constant)	.241	.991		.243	.809
	Quality of Service	.073	.073	.139	1.006	.319
	Quality of System	.030	.079	.053	.382	.704
	Quality of Security	-.065	.076	-.121	-.848	.400

Based on table 4 of the results of the research Heteroscedasticity test at the Outpatient Polyclinic

of Sundari General Hospital Medan, it can be seen that the Asymp.Sig.(2-tailed) value of each variable is 0.319 for the Service Quality variable, 0.704 for the System Quality variable, and 0.400 for the Security Quality variable, when each result displays a significance value of more than 0.05. Thus, it can be said that there was no heteroscedasticity in the regression equation model used in this investigation.

Test for Multicollinearity

Mentioning that the purpose of the multicollinearity test is to determine whether the regression model identified some, some, or all correlations between the independent (independent) variables. Because $VIF = 1/\text{tolerance}$ and indicates strong collinearity, a low tolerance value is equivalent to a high VIF number. For tolerance values > 0.01 or VIF values 10, the cutoff value is utilized (10).

Table 5 Research Multicollinearity Test at the Outpatient Polyclinic at Sundari General Hospital Medan

Model	Coefficients ^a	Collinearity Statistics	
		Tolerance	VIF
	(Constant)		
1	Quality of Service	.920	1.087
	Quality of System	.908	1.101
	Quality of Security	.850	1.176

The Tolerance values of each variable are 0.920 for the Quality of Service variable, 0.908 for the Quality Variable System, and 0.850 for the Security Quality variable, with each result showing that the Tolerance value is > 0.01 based on table 5 of the results of the research Multicollinearity test by looking at the Tolerance and Variance Inflation Factor (VIF) values at the Outpatient Polyclinic at Sundari Medan General Hospital. While the VIF values derived from each variable are 1.101 for system quality, 1.176 for security quality, and 1.087 for service quality variable, respectively, each result indicates that the VIF value is less than 10. Hence, it may be said that the regression equation model in this study does not experience multicollinearity.

Bivariate Analysis

Each variable is only partially tested using the t test. The coefficients table's sig (significance) column contains the t test findings. There is a partial association between the independent factors and the dependent variable if the value or significance is less than < 0.05 (10).

Table 6. Partial Test (t-test) Research at Outpatient Polyclinic, Sundari General Hospital, Medan

Model	Coefficients ^a	Unstand ardized B	Coefficients Std. Error	Standard Coefficients Beta	T	Sig.
	(Constant)	-4.462	1.645		-2.713	.009
1	Quality of Service	.619	.121	.479	5.133	.000
	Quality of System	.509	.132	.363	3.866	.000
	Quality of Security	.366	.127	.280	2.880	.006

The multiple regression equation can be described as follows using the data in table 4.16 above:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3$$

$$Y = -4,462 + 0,619X_1 + 0,509X_2 + 0,366X_3$$

It can be explained as follows using the multiple linear regression equation above:

- Constant value of (-4.462). This number shows that the value of the dependent variable will be the same whether any of the independent variables (Service Quality, System Quality, and Security Quality) are zero or remain unchanged (Effectiveness) is 4.462. The negative sign on the constant value indicates that there is a non-unidirectional influence that exists between the independent and dependent variables.
- The regression coefficient value for the Service Quality variable is (0.619). This value indicates

that if the Service Quality variable increases by 1% and other variables remain constant or do not change, the Effectiveness variable will increase 0.619.

c). The regression coefficient value for the System Quality variable is (0.509). This value indicates that if the System Quality variable increases by 1% and other variables remain constant or do not change, the Effectiveness variable will increase by 0.509.

d). The regression coefficient value for the Security Quality variable is (0.366). This value indicates that if the Security Quality variable increases by 1% and other variables remain constant or do not change, the Effectiveness variable will increase by 0.366.

The connection between effectiveness and service quality of the Online Registration System

Based on table 6 Partial test results (t-test) Multiple Linear Regression Analysis at Outpatient Polyclinic at Sundari Medan General Hospital, it can be seen that the tcount value for the Quality of Service variable is (5.133) which results indicate that the tcount > ttable (2,000) and the value of Sig. for the Service Quality variable is (0.000) which results indicate that the value of Sig. < α (0.05) which means there is a significant relationship between the Quality of Service variable and the Effectiveness variable. So, it can be concluded that there is a connection between Service Quality and Effectiveness of the online registration system at the Outpatient Polyclinic, Sundari Hospital, Medan.

The Relationship between System Quality and the Effectiveness of the Online Registration System

Based on table 6 Partial test results (t-test) Multiple Linear Regression Analysis at the Outpatient Polyclinic at Sundari General Hospital Medan, it can be seen that the tcount value for the System Quality variable is (3.866) which results indicate that the tcount > ttable (2,000) and the value of Sig. for the System Quality variable is (0.000) which results indicate that the value of Sig. < α (0.05) which means that there is a significant relationship between the variable System Quality and the variable Effectiveness. So it can be concluded that there is a relationship between system quality and the effectiveness of the online registration system at the Outpatient Polyclinic, Sundari Hospital, Medan.

The Relationship between Security Quality and Effectiveness of the Online Registration System

Based on table 6 Partial test results (t-test) Multiple Linear Regression Analysis at the Outpatient Polyclinic at Sundari Medan General Hospital, it can be seen that the tcount value for the Safety Quality variable is (2.880) which results indicate that the tcount > ttable (2,000) and the value of Sig. for the Security Quality variable is (0.006) which results indicate that the value of Sig. < α (0.05) which means that there is a significant influence between the variable Quality of Security on the variable Effectiveness. So it can be concluded that there is a relationship between the quality of safety and the effectiveness of the online registration system at the Outpatient Polyclinic, Sundari Hospital, Medan.

Multivariate Analysis

The Effects of Service Quality, System Quality, and Security Quality on the Effectiveness of the Online Registration System

The F test looks to see if the independent factors influence the dependent variable jointly (or simultaneously). To determine the combined impact of all independent factors on the dependent variable, the F test is used. It is either 0.5 or 5%. If the significant value is $F < 0.05$, it indicates that the independent variable and dependent variable are both simultaneously influenced by one another (10).

Table 7 Simultaneous Test (F-Test) Research at the Outpatient Polyclinic of Sundari General Hospital Medan ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38.536	3	12.845	22.862	.000 ^b
	Residual	31.464	56	.562		

Based on table 4 Simultaneous test results (F-test) Multiple Linear Regression Analysis at the Outpatient Polyclinic at Sundari General Hospital in Medan, it can be seen that the Fcount value for this study is (22.862) which results indicate that the Fcount > Ftable (2 .77) and the value of Sig. for this study is (0.000) which results indicate that the value of Sig. < α (0.05) which means simultaneously or simultaneously there is a significant influence between the Service Quality variable, System Quality variable, and Security Quality variable on the Effectiveness variable. So, it can be concluded that there is a simultaneous influence between Service Quality, System Quality variables, and Safety Quality variables on the effectiveness of the online registration system at the Outpatient Polyclinic, Sundari Hospital, Medan. In order to assess the model's capacity to explain how the independent variables concurrently (simultaneously) impact the dependent variable, which may be represented by the value of adjusted R - Squared, the coefficient of determination was tested (Ghozali, 2016).

Table 8. Test of the Coefficient of Determination of Research at the Outpatient Polyclinic of Sundari General Hospital Medan

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742 ^a	.551	.526	.750

Predictors: (Constant), Security Quality, Service Quality, System Quality

Table 4 shows the results of the Coefficient of Determination of Multiple Linear Regression Analysis at the Outpatient Polyclinic of Sundari General Hospital in Medan. The value of the Coefficient of Determination in Adjusted R Square for this study is (0.526), which means that the influence of service quality variables, system quality, and security quality on effectiveness is 52.6%, with other variables influencing the remaining 47.4%.

DISCUSSION

The Effect of Service Quality on the Effectiveness of the Online Registration System

Based on the researcher's assumptions, service quality demands are a priority in Indonesia, especially in hospital institutions. It is not enough for a hospital to only offer services with the original concept of "safe" but it needs to offer maximum results in the form of professional standard services. Human resources that a hospital must have in in principle it has been regulated through hospital accreditation namely in determining the number and specifications of personnel. Based on the results of the study, using multiple linear regression analysis there is a significant relationship between the quality variable and the effectiveness of the online registration system at the outpatient polyclinic at the Sundari General Hospital in Medan, it can be seen that the tcount value for the Quality of Service variable is (5.133) which results shows that the value of tcount > ttable (2,000) and the value of Sig. for the Service Quality variable is (0.000) which results indicate that the value of Sig. < α (0.05) which means there is a significant influence between the variable Quality of Service on the variable Effectiveness. So, it can be concluded that there is an influence between Service Quality on the Effectiveness of the online registration system at the Outpatient Polyclinic, Sundari Hospital, Medan. This research is also in line with the research conducted by Adam Anshari Afdoli and Hasbullah Malau "Effectiveness of Outpatient Online Registration Services at M Djamil Hospital, Padang City 2019" The results of this study aim to determine Service Effectiveness, Constraints, and Efforts regarding Outpatient Online Registration at RSUP M Djamil City of Padang (Afdoli & Malau, 2019).

The Influence of System Quality on the Effectiveness of the Online Registration System

Based on the assumptions of system researchers in an institution it is very helpful to facilitate work so that it is organized on target. Based on the results of the study, using multiple linear regression analysis there was a significant relationship between the quality variable and the

effectiveness of the online registration system at the outpatient polyclinic at the Sundari General Hospital in Medan, it can be seen that the t_{count} value for the System Quality variable is (3.866) which results indicate that $t_{count} > t_{table}$ (2,000) and the Sig value for the System Quality variable is (0,000) which results indicate that the Sig. $< \alpha$ (0.05) which means that there is a significant relationship between the variable System Quality and the variable Effectiveness.

This research is also in line with research conducted by Andi Surahman Batara "the effect of the quality of the E-Santri system on patient satisfaction in 2021.", speed of access (response time), and system flexibility (flexibility) are going well so as to increase patient satisfaction, but seen from the aspects of system reliability (reliability) and aspects of system security (security) have not been implemented properly (Batara, 2021).

The Effect of Security Quality on the Effectiveness of the Online Registration System

Based on the assumptions of information system security researchers are all forms of mechanisms that must be carried out in a system aimed at preventing the system from all threats that endanger the security of information data and the security of system actors. The security factor is one of the scopes in implementing a hospital management information system. which is very important related to regulations regarding the confidentiality of hospital patient data, as well as preventing data loss which can result in disruption of patient services and care.

Based on the results of the study, using multiple linear regression analysis there was a significant relationship between the quality variable and the effectiveness of the online registration system at the outpatient polyclinic at the Sundari General Hospital in Medan, it can be seen that the t_{count} value for the Safety Quality variable is (2.880) which results indicate that $t_{count} > t_{table}$ (2,000) and Sig. for the Security Quality variable is (0.000) which results indicate that the value of Sig. $< \alpha$ (0.05) which means that there is a significant influence between the variable Quality of Security on the variable Effectiveness.

This research is also in line with research conducted by Andi Surahman Batara "the effect of the quality of the E-Santri system on patient satisfaction in 2021.", speed of access (response time), and system flexibility (flexibility) are going well so as to increase patient satisfaction, but seen from the aspects of system reliability (reliability) and aspects of system security (security) have not been implemented properly (Elyanovianti et al., 2021).

CONCLUSION

Based on the results of the research and data analysis it was concluded that there was a relationship between service, system quality, security quality and the effectiveness of the online registration system at the outpatient Polyclinic during the Covid-19 pandemic at Sundari General Hospital. It is hoped that the hospital can maintain and improve services in a timely manner according to the information that has been submitted or promised, is accurate and reliable so as to increase patient satisfaction.

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