

ANALYSIS OF THE EFFECTIVENESS OF THE ONLINE REGISTRATION SYSTEM ON PATIENT SATISFACTION AT RATU AJI PUTRI BOTUNG HOSPITAL, PENAJAM PASER UTARA REGENCY

Elvin Leander Hadisaputro¹, Hasrullah^{2*}, Erlin Setyaningsih³, Nuorma Wahyuni⁴

^{1,2,3,4} STMIK Borneo Internasional Balikpapan

*Corresponding Author: hasrullah.92@yahoo.com

Abstract: This study aims to analyze the effectiveness of the online registration system on patient satisfaction at Ratu Aji Putri Botung Hospital, Penajam Paser Utara Regency. This research uses a quantitative approach. The subjects of this study were patients of Ratu Aji Putri Botung Hospital and a sample of 83 people was taken as respondents. The data collection method used a questionnaire. The testing technique uses validity test, reliability test, classical assumption test and Regression Analysis test in which there are t test results, and the coefficient of determination. Based on the results of the t test regression analysis, it shows that the tcount value on the Online Registration System variable (X) on Patient Satisfaction (Y) is 5.775 and the significance value is 0.000. Then the significance value of $0.000 < 0.05$, while the comparison between tcount and ttable is $5.775 > 1.989$. This shows that the level of significance is smaller and also the comparison between tcount is greater than ttable and is positive, it can be concluded that the Online Registration System (X) has a positive and significant effect on Patient Satisfaction (Y). The results showed that the utilization of information and communication technology applied to this Online Registration System will create an organized system and avoid the accumulation of more patients to come repeatedly to the service place, but customers only come according to the days and hours obtained from the Online Registration System website patients at a service place, so that the online registration system will increase patient satisfaction at Ratu Aji Putri Botung Hospital.

Keywords: Online Registration System, Patient Satisfaction, Effectiveness

1. Introduction

The application of information technology has entered various fields and its benefits are starting to be felt. This encourages some information technology developers to develop processes to utilize existing information technology. Information technology is one of the technical advances that has penetrated many aspects of human life. Government administration service systems, education, economics, hospitals and other public services are also no exception to this technological advancement. This aims to facilitate services to the community in various regions in Indonesia. (Indriani, 2024).

In this digitalization era, the development of information and communication technology systems is very rapid and can be utilized and applied in all fields, including being applied in the health sector, one of which is in the hospital. Hospital is one of the health service institutions with high service complexity, so that in order to carry out its functions properly, it is necessary to have good professionalism in the medical and administrative fields. Hospital as a health care institution that organizes comprehensive individual health services that provide inpatient, outpatient and emergency services. The task of the Hospital is to provide comprehensive individual health services. The function of the Hospital itself is the provision of treatment and

health recovery services in accordance with hospital service standards. Hospitals as one of the individual health care facilities are part of the health resources that are indispensable in supporting the implementation of health efforts. The organization of health services in hospitals has very complex characteristics so that a good information system needs to be implemented (Tami, 2021).

The development of technology in the health sector can also affect the degree of public health. One of the increasing influences on the health sector is the emergence of many health applications that can be easily accessed via smartphone or tablet devices (Hastuti, 2023). The existence of technological developments accompanied by the increasing public need for fast health services, requires hospitals to continue to improve the quality of their services in meeting these demands. Health services are one of the areas of public services that apply information technology systems in their services. Technology-based health services have included various systems such as management, organization, treatment, research and development of health science itself. Health services are an important factor in improving the degree of public health. Everyone has the same right to obtain health services. The government is responsible for providing all forms of health services and facilities that are quality, safe, efficient, and affordable (Panjaitan, 2018).

The registration unit is the main place that patients visit when they seek treatment at a health service, where patient registration records all patient data such as patient name, address, gender, place and date of birth, occupation and other data that support patient registration to the health service (Shofiana, 2019). The concept of this Online registration system is a computerized concept, namely patients can register themselves online on a web-based Online registration system that is already available to get a queue number, then the patient only needs to come to validate the queue number at the patient registration area, without the need to queue to be registered by the patient registration officer (Ariani, 2022). The Online Registration System is one way the Hospital makes it easy for patients and families to register by utilizing existing technology facilities, for example patients register by utilizing telephone facilities, SMS (Short Message Service), WhatsApp facilities, website facilities, and others to get checks from health services (Khasanah, 2023). By utilizing online registration, patients can get information about the doctor's schedule, practice hours, range of service times according to the queue number obtained during online registration.

The patient's online registration system still has internal obstacles that hinder the online registration system, namely the lack of human resources in directing patients who use the online registration system and the low level of public knowledge about online registration services. Online registration also has external obstacles, namely delays in server response, and patient errors in filling out the registration format in the application as a result of which the patient has the wrong poly to go to. Patient registration is the initial service place for patients who will seek treatment at the hospital. The outpatient registration section is a form of patient medical service, of course the hospital must be able to provide good service (Putri, 2022). Through an easy, fast and efficient system, it is hoped that it can be the best service to the community so as to provide satisfaction for the community in taking care of certain administrations. Patient satisfaction is an assessment given by patients or customers by comparing expectations with the reality of the services that have been provided by health care facilities. One important indicator of success in health services in using this online registration system is patient satisfaction or end user satisfaction. This shows how important it is to know the wishes and opinions of the user side, where if the wishes are fulfilled, satisfaction for system users will be realized.

Ratu Aji Putri Botung Regional General Hospital (RSUD RAPB) is a hospital owned by the Government of North Penajam Paser Regency, East Kalimantan, which is in a strategic location precisely on the Km.09 Provincial Road, Nipah-nipah Village, which is the main provincial road connecting Balikpapan City with North Penajam Paser Regency. RSUD Ratu Aji Putri Botung has a vision **"To become a modern and quality hospital, the first choice of the people of North Penajam Paser"**. RSUD Ratu Aji Putri Botung has also implemented information technology systems in all aspects of its health services and facilities. This research focuses on the online registration system at Ratu Aji Putri Botung Hospital.

Therefore, based on the phenomenon or background above, the authors are interested in conducting research with the title "Analysis of the Effectiveness of the Online Registration System on Patient Satisfaction at Ratu Aji Putri Botung Hospital, Penajam Paser Utara Regency". The formulation of the problem in this study is how the effectiveness of the online registration system on patient satisfaction at Ratu Aji Putri Botung Hospital. The purpose of this study was to determine whether the online registration system has an effect on patient satisfaction at Ratu Aji Putri Botung Hospital.

2. Literature Review

Consumer Satisfaction

Patient Satisfaction Understanding the needs and wants of patients is an important thing that affects patient satisfaction. Satisfied patients are a very valuable asset because if patients are satisfied, they will continue to use the service of their choice, but if patients are dissatisfied, they will tell others twice as great about their bad experience.

Patients are sick people who are treated by doctors and other health workers at the practice site (Yuwono, 2003). Meanwhile, satisfaction is a person's feeling of pleasure that comes from the comparison between pleasure with activities and a product with expectations (Nursalam, 2011). According to Pohan (2015: 156), patient satisfaction is a level of patient feelings that arise as a result of the performance of health services obtained after the patient compares it with what he expected. To measure patient satisfaction according to Pohan (2015: 152) there are four dimensions as follows:

1. Access to health services, namely services that must be accessible to the community, not hindered by geographical, social, economic, organizational and language conditions.
2. Quality of health services, namely health services that can satisfy every user of health services in accordance with the average level of satisfaction.
3. The health service process, which is a variety of activities in health services that can produce satisfaction according to patient expectations.
4. Health service system, which is an important part in improving health status. Through this system, health development goals can be achieved in an effective, efficient and targeted manner.

There are factors that affect patient satisfaction. Patient satisfaction must be accompanied by monitoring of needs and wants, namely:

1. Performance, i.e. the essential operating characteristics of the core purchased or received.
2. Additional characteristics or features, i.e. secondary or complementary characteristics.
3. Reliability, which is a probability factor that describes the small chance of damage or failure.
4. Conformance to specifications, i.e. the extent to which design and operating characteristics meet predetermined standards.

5. Durability, related to how long the product or service can continue to be used.
6. Serviceability, including speed of competence, convenience, easy to repair, and satisfactory handling of complaints. The service provided is not limited to just before sales but also during the sales process to after-sales, including repair services and the availability of the required components.
7. Aesthetics, namely the attractiveness of the product to the five senses. 8) Perceived quality, related to the image and reputation of the product or service and the company's responsibility for it. Usually due to lack of consumer knowledge of the attributes or characteristics of the product (goods or services) to be purchased or received.

Online Registration

Registration is a hospital service procedure to obtain the identity of a patient who comes to the hospital. This registration has a very important function in the hospital, namely as the first service delivery that determines the good and bad services provided by the hospital.

According to Yanmet (2022: 22) registration is a procedure for admitting patients who will seek treatment at the polytechnic or be treated which is part of a hospital service procedure system. It can be said that this is where the first service is received by a patient when he arrives at the hospital. So it is in this reception procedure that a patient gets a good or bad impression of a hospital servant. The procedure for receiving patients can be assessed properly with a friendly, polite, orderly, and responsible attitude.

Outpatient registration at the hospital is one of them online registration, according to Hastuti (2023) online registration is registration of patients or families of patients registering to utilize remote technology facilities or by registering from home, for example patients registering with telephone, SMS, WhatsApp, and Web facilities.

3. Method

The method used in this study is quantitative method. According to (Indrawan, 2016) "Quantitative research is a form of scientific research that examines the problem of a phenomenon and examines the possible relationships or relationships between variables in the specified problem". Research that seeks to determine the relationship between two or more variables is called quantitative research. (Sugiyono, 2017). The research conducted may be functional or causal in nature, changes in one variable cause changes in other variables, meaning that changes in a variable affect changes in other variables and vice versa. This research in the data processing process uses the help of SPSS (Statistical Product and Service Solutions) software version 20.

The data collection technique used in this research is by distributing questionnaires containing questions related to the object of research. Respondents in this study consisted of patients who used the Online Registration System at Ratu Aji Putri Botung Hospital, Penajam Paser Utara Regency. In this case, the researcher has made a survey that has been filled in by 83 patients who use the Online Registration System when registering at Ratu Aji Putri Botung Hospital. Analysis of effectiveness in this study using linear regression analysis, regression analysis is an analytical method used in this study. The linear relationship between two or more independent variables (X) and the dependent variable (Y) is called regression analysis. The purpose of this analysis is to find the direction of the dependent variable, as well as to relate positively or negatively to each independent variable. In addition, it aims to predict the value of the dependent variable if the independent variable increases or decreases. Regression

analysis requires you to go through a number of testing stages, such as validity, reliability, normality, and linearity tests. The research then analyzes the test findings to determine the hypothesis results. The hypothesis in this study says that the use of the Online Registration System affects Patient Satisfaction at Ratu Aji Putri Botung Hospital, Penajam Paser Utara Regency.

4. Results and Discussion

Respondent Overview

Figure 1 and figure 2, shows the characteristics of the 83 respondents in this study.

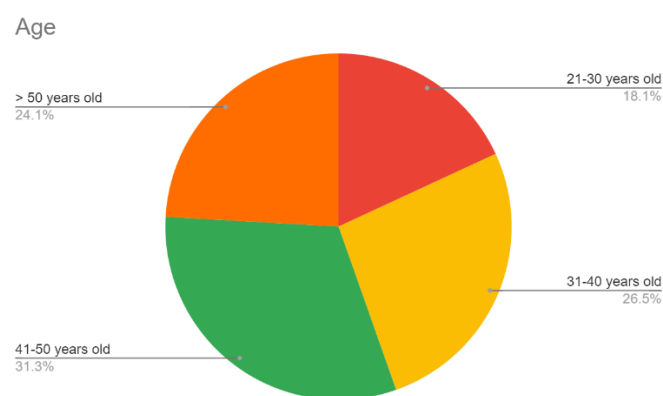


Figure 1. Respondents Age

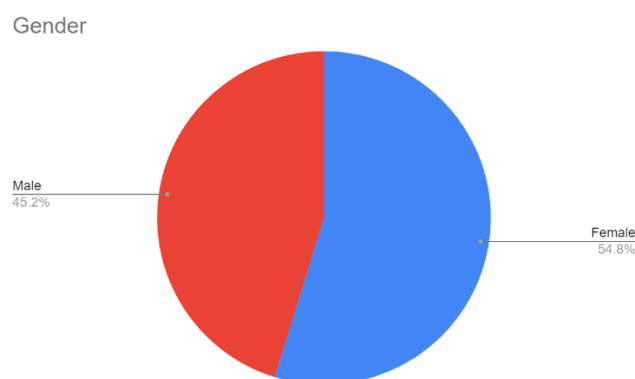


Figure 2. Gender

Data Validity Test

According to (Sugiyono, 2017), the purpose of the validity test is to show the accuracy of the data actually collected and examined by the researcher. The data validity test is needed to assess the accuracy and applicability of the questionnaire questions. to determine the validity of the survey that researchers distributed to respondents. The following are the findings of the questionnaire validity test in this study is shown in Table 1:

Table 1. Validity Test Results

Variables	Question Item	Pearson Correlation	r_{tabel}	Sig.	Description
Online Registration System (X)	X.1	0.512	0.215	0,000	Valid
	X.2	0.538	0.215	0,000	Valid
	X.3	0.587	0.215	0,000	Valid
	X.4	0.469	0.215	0,000	Valid
	X.5	0.585	0.215	0,000	Valid
	X.6	0.631	0.215	0,000	Valid
	X.7	0.874	0.215	0,000	Valid
	X.8	0.663	0.215	0,000	Valid
	X.9	0.667	0.215	0,000	Valid
Patient Satisfaction (Y)	Y.1	0.688	0.215	0,000	Valid
	Y.2	0.767	0.215	0,000	Valid
	Y.3	0.764	0.215	0,000	Valid
	Y.4	0.828	0.215	0,000	Valid
	Y.5	0.872	0.215	0,000	Valid
	Y.6	0.827	0.215	0,000	Valid
	Y.7	0.843	0.215	0,000	Valid
	Y.8	0.845	0.215	0,000	Valid
	Y.9	0.863	0.215	0,000	Valid

Based on the results of the validity test on the Online registration system variable (X) and Patient Satisfaction (Y), each variable on each question item has a significance value <0.05 and the Pearson Correlation value or $r_{\text{count}} > r_{\text{table}}$ (0.215), therefore, it can be concluded that each question item is considered valid and can be used in the next stage of testing.

Reliability Test

The next stage of data quality testing is the reliability test. The reliability test is carried out to evaluate how stable the measurement variables are over time. the reliability of measuring instruments can be tested by analyzing the consistency of the items on the instrument with certain techniques. In this study, it was processed with SPSS version 16.0 with Chronbach alpha, if the Chronbach alpha value of a variable is greater than 0.60, then the variable is considered reliable. Table 2 shows the findings of the research reliability test.

Table 2. Reliability Test Results

Reliability Statistics Y	
Cronbach's Alpha	N of Items
.935	9
Reliability Statistics X	
Cronbach's Alpha	N of Items
.704	9

The results of the Reliability Test in this study as shown in the table above, the Cronbach's alpha value of each question is greater than 0.60. Specifically, the Online registration system variable (X) is worth 0.704 and the Patient Satisfaction variable (Y) is worth 0.935. So it can be concluded that the instrument questions on each variable are consistently reliable or reliable if used in further research.

Data Normality Test

The normality test aims to test whether in the regression model, confounding or residual variables have a normal distribution or not (Siregar, 2017). The normality test in this study used the Kolmogorov Smirnov test processed with SPSS version 16.0 The results of the normality test in this study are shown in Table 3.

Table 3. Normality Test

One-Sample Kolmogorov-Smirnov Test			
			Unstandardized Residual
N			83
Normal Parameters ^a	Mean		.0000000
	Std. Deviation		3.28691323
Most Extreme Differences	Absolute		.088
	Positive		.065
	Negative		-.088
Kolmogorov-Smirnov Z			.805
Asymp. Sig. (2-tailed)			.536
a. Test distribution is Normal.			

Each question item is normally distributed, according to the findings of the SPSS calculation which shows that the variable use of the Online Registration System (X) and Patient Satisfaction (Y) has a significance value above 0.05 or 0.536, so it can be concluded that the dependent and independent variable data are normally distributed.

Linearity Test

The linearity test is used to determine the linearity of the data, namely whether the two variables have a linear relationship or not. to determine whether there is a linear relationship between the dependent variable and each independent variable to be tested. If a model does not meet the linearity requirements, the linear regression model cannot be used and the data can be used for further analysis. This test is used as a prerequisite in pearson correlation analysis or linear regression. (Priyatno, 2016). Testing on SPSS using the Test for Linearity at a significant rate of 0.05 Two variables are said to have a linear relationship if the significance (Linearity) is more than 0.05. The results of the linearity test in this study are shown in Table 4.

Table 4. Linearity Test Results
ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Patient Satisfaction * Online Registration System	Between	(Combined)	423.345	11	38.486	3.303	.001
	Groups	Linearity	364.811	1	364.811	31.306	.000
		Deviation from Linearity	58.534	10	5.853	.502	.883
	Within Groups		827.378	71	11.653		
	Total		1250.723	82			

The table above shows that the significance value in the deviation from linearity of the Online Registration System variable on the Patient Satisfaction variable (Y) is 0.883. Because the significance value is $0.883 > 0.05$. So it can be concluded that there is a significant linear relationship between the dependent variable and the independent variable and testing can be carried out at the next stage.

Regression Analysis

Regression analysis is a linear relationship between the independent variable (X) and the dependent variable (Y). This analysis is to determine the direction between the dependent variables whether each independent variable is positively or negatively related and to predict the value of the dependent variable if the independent variable increases or decreases. From processing the regression analysis data, the results of the t test and the determination coefficient test are obtained. To answer the hypothesis regarding the influence of the variable use of the Online Registration System (X) on Patient Satisfaction (Y) put forward by the researcher can be through the t test results as shown in Table 5.

The t test results based on the table 5 shows that the t_{count} value on the Online Registration System variable (X) on Patient Satisfaction (Y) is 5.775 and the significance value is 0.000. Then the significance value of $0.000 < 0.05$, while the comparison between t_{count} and t_{table} is $5.775 > 1.989$. This shows that the level of significance is smaller and also the comparison between t_{count} is greater than t_{table} and is positive, it can be concluded that the Online Registration System (X) has a positive and significant effect on Patient Satisfaction (Y).

Table 5. Results of the t-test

		Coefficients ^a			t	Sig.
Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	11.103	5.273		2.106	.038
	Sistem Pendaftaran Online	.739	.128	.540	5.775	.000

a. Dependent Variable: Patient Satisfaction

Discussion

The times have an impact on digital information, especially in the health sector. Utilization of health technology among patients can make it easier to get information related to hospitals, and can access and choose health facilities that suit their needs. Utilization of information technology as a tool to facilitate work can support services to be more effective and efficient. One of the utilizations of information technology systems is the Online Registration System. The utilization of information and communication technology applied to this Online Registration System will create an organized system and avoid the accumulation of more patients to come repeatedly to the service place, but customers only come according to the days and hours obtained from the Online Registration System website patients at a service place. In addition, patients also do not need to waste time. (Momen Amalia, 2023) The Online Registration System is something that must be considered at Ratu Aji Putri Botung District Hospital, Penajam Paser Utara because the Online Registration System helps and makes it easier for patients to get examinations from health services so that patients feel satisfied.

Measuring the level of patient satisfaction is very important as a reference for improving the quality of health services in hospitals. Patient satisfaction can occur when what is the patient's needs, wants and expectations can be met, then the patient will be satisfied. Patient satisfaction is a feeling of pleasure or satisfaction with the product or service received, and has met or exceeded the patient's expectations. Patient satisfaction is important because patient satisfaction is an indicator of the quality of the services we provide and patient satisfaction is an asset to get more patients and to get loyal or loyal patients. Loyal patients will certainly return to use the same health services if they need it again. It has even been known that loyal patients will influence or invite others to use the same health care facility when they feel that the service is good. (Ganda Saputra, 2024).

To fulfill the increasing services requires proper registration services. Registration services in hospitals are one of the important components in realizing information systems in hospitals. Manual service has many weaknesses, apart from requiring a long time, accuracy and accuracy are less acceptable, because the possibility of error is highly dependent on the level of human resources and obstacles are also found in people who do not understand the technology related to the Online Registration System. signal delays to register, Infrastructure facilities to achieve good service, in addition to humans who are experts in their fields must also be able to use information systems and technology as one of the tools.

5. Conclusion

The use of the Online Registration System (X) has a positive and significant effect on Patient Satisfaction (Y). Based on the results of the t test regression analysis, it shows that the t_{count} value on the Online Registration System variable (X) on Patient Satisfaction (Y) is 5.775 and the significance value is 0.000. Then the significance value of $0.000 < 0.05$, while the comparison between t_{count} and t_{table} is $5.775 > 1.989$. This shows that the level of significance is smaller and also the comparison between t_{count} is greater than t_{table} and is positive, it can be concluded that the online registration system has a positive effect on patient satisfaction.

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