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Analysis Of The 'Apam' System On The Level Of Satisfaction Of Geriarti Patients Based On The 'Eucs' Method AT *Rs Bunda Palembang*

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Abstract

In providing safe, quality, and affordable health services for everyone in the hospital, it is necessary to rely intensively on information. The development of information technology that needs to be developed at this time is a patient registration information system. An important indicator in the success of information system development is *end user satisfaction*. So user satisfaction plays a very important role in the success of an information system. Bunda Hospital Palembang is a Type C referral hospital, in the outpatient registration section, Bunda Hospital started using online registration in October 2024 by having 3 technology-based Independent Patient Platforms (APAM) systematically integrated with patient electronic medical records so that services become effective and efficient can reduce and break down long outpatient registration queues. The purpose of this study was to determine and explain the satisfaction of geriatric patients since the implementation of the outpatient independent patient platform (APAM) system at Bunda Hospital Palembang. The research method used was quantitative with a *cross sectional* research design*,* the research was conducted at Bunda Hospital Palembang in the span of January - February 2025. Sampling using the *Slovin* formula with a total of 100 respondents. From the results of the questionnaire it was found that all data were valid and reliable. Based on the F test, it can be seen that the P-value number is 0.000 <0.05, meaning that the regression coefficient **is significant, eating Ho is rejected or Ha is accepted,** so it can be concluded that there is a significant effect simultaneously together with the independent variables *content* (X1), *accuracy* (X2), format (X3), *ease of use* (X4), *timeliness* (X5) on the dependent variable Patient satisfaction (Y). Based on the results of research and discussion, it can be concluded that the influence of content or content, *accuracy of* data, format, *ease of use* or ease, *timeliness* or time of use shows satisfaction for outpatient geriatric patients at Bunda Hospital Palembang. The conclusion of this study is that geriatric patients who do outpatient registration feel satisfaction using the APAM system. And it is necessary to do an evaluation from management to maintain it.

Key words: Automated Patient Registration System (APAM); *End User Computing Satisfaction (EUCS)* Method

Abstrak

Dalam memberi pelayanan kesehatan yang aman, bermutu, dan terjangkau bagi setiap orang di rumah sakit perlu mengandalkan informasi secara intensif. Pengembangan teknologi informasi yang perlu dikembangkan saat ini adalah sistem informasi pendaftaran pasien. Indikator penting dalam keberhasilan pengembangan sistem informasi adalah kepuasan pengguna atau *end user satisfaction*. Maka kepuasan pengguna sangat berperan penting dalam kesuksesan sebuah sistem informasi. RS Bunda Palembang merupakan rumah sakit rujukan Type C, di bagian pendaftaran rawat jalan RS Bunda memulai menggunakan pendaftaran online pada bulan Oktober 2024 dengan memiliki 3 Anjungan Pasien Mandiri (APAM) berbasis teknologi secara sistematik terintegrasi dengan rekam medis elektronik pasien sehingga pelayanan menjadi efektif dan efisien dapat mengurangi dan memecah antrian pendaftaran rawat jalan yang panjang. Tujuan dari penelitian ini adalah untuk mengetahui dan menjelaskan kepuasan pasien geriatri sejak di implementasikannya sistem anjungan pasien mandiri (APAM) rawat jalan di RS Bunda Palembang. Metode penelitian yang digunakan adalah kuantitatif dengan desain penelitian *cross sectional,* penelitian di lakukan di RS Bunda Palembang pada rentang waktu bulan Januari - Februari 2025. Pengambilan sampling menggunakan rumus *Slovin* dengan jumlah

100 responden. Dari hasil kuesioner didapatkan bahwa semua data valid dan reliabel. Berdasarkan uji F terlihat bahwa angka nilai P-value sebesar 0.000 < 0.05, artinya koefisien regresi tersebut **signifikan, makan Ho di tolak atau Ha di terima,** sehingga dapat di simpulkan bahwa terdapat pengaruh yang signifikan secara simultan bersama sama variabel bebas *content* (X1), *accuracy* (X2), format (X3), *ease of use* (X4), *timeliness* (X5) terhadap variabel terikat Kepuasan pasien (Y). Berdasarkan hasil penelitian dan pembahasan dapat di simpulkan hasil penelitian ini bahwa pengaruh *content* atau isi, *accuracy* data, format, *ease of use* atau kemudahan, *timeliness* atau waktu penggunaan menunjukkan kepuasan bagi pasien geriarti rawat jalan di RS Bunda Palembang. Kesimpulan dari penelitian ini bahwa pasien geriarti yang melakukan pendaftaran rawat jalan merasakan kepuasan menggunakan sistem APAM. Dan perlu dilakukan evaluasi dari managemen untuk mempertahankannya.

Kata kunci : Anjungan Pasien Mandiri (APAM); Metode *End User Computing Satisfaction (EUCS)*

INTRODUCTION

Globalization will have an impact on all aspects of life. This includes aspects of health services. Hospitals as a form of health care facility must provide good and quality services and provide correct information about hospital services to the public. Hospital management must strive to satisfy its patients, in this case the community with various levels of needs. In addition, the Hospital must be able to provide health services that are fast, accurate, and in accordance with advances in medical technology in order to realize the highest degree of health.

In providing safe, quality, and affordable health services for everyone in the hospital as stated in Health Law No. 36 of 2009, it is necessary to rely intensively on information. Where information has a vital role in decision making. Customer (patient) satisfaction is an orientation in the information system. Information about the quality of hospital services in our country is still not much found. Because in hospitals it turns out that there is still a lack of attention to the concept of quality itself, and there is still no serious management of management information systems and the quality standards of service in hospitals have not been made. The development of information technology that needs to be developed at this time is a patient registration information system. An important indicator in the successful development of information systems is user satisfaction or *end user satisfaction*. This shows the importance of knowing the wishes and opinions of the user side, where if the wishes are fulfilled, satisfaction will be realized for system users. So user satisfaction plays a very important role in the success of an information system.

RS Bunda Palembang is a Type C referral hospital, in the outpatient registration section, *RS Bunda* started using online registration in October 2024 by having 3 technology-based Independent Patient Machines (APAM) systematically integrated with patient electronic medical records so that services become effective and efficient can reduce and break down long outpatient registration queues and reduce waiting time for manual medical record preparation.

Although APAM can help facilitate outpatient registration services, there are still many obstacles found during implementation in the field, such as the lack of socialization to patients about how to use the APAM system. Each hospital has a different system so that for new visitors, of course, requires socialization and direction from hospital staff. Patients are confused about how to start using it and must be assisted by hospital staff, the absence of an informative flow in using the APAM system can affect the smoothness of inputting and user satisfaction of the APAM system. The group that most often uses health facilities, especially hospitals, is the age group over 50 years old, because this age group on average begins to experience physical deterioration and health problems, so they most often seek treatment at the hospital. Elderly patients who have physical limitations and no ability to develop technology, or the current term is ***gaptek*** (stuttering technology), so this study can be a reference for satisfaction with the APAM system in other groups. So if the elderly group

that has many limitations and shortcomings is quite satisfied with the Independent Patient Platform system, then other age groups will feel even more satisfied.

Other obstacles that often occur are frequent errors in the BPJS system connection from the Health Facility I, which hampers registration services using the APAM system which causes long queues because it switches back to being manually served one-on-one by hospital registration officers. Internet network disruptions also affect the connection between the APAM system and electronic medical records.

By looking at the background description that the author made, the author intends to examine the extent of geriatric patient satisfaction with the Automated Patient Automation System (APAM) in outpatient registration at *Bunda* Hospital using the *End User Computing Satisfaction* (EUCS) method, which is a method for measuring the level of satisfaction of users of an information system which is assessed by 5 dimensions, namely : *Content* (content), *accuracy* (data accuracy), *format* (display), *ease of use* (ease of use), *timeliness* (time).

RESEARCH METHOD

Applied research with a *cross sectional* design using measurements on independent and dependent variables carried out at the same time with descriptive analysis, namely describing patient satisfaction and analytical analysis using parametric statistics.

The implementation of this research data collection took place during January 2025 during hospital operating hours in the outpatient registration department of *RSU Bunda Palembang*. Justification for taking the research location at *Bunda* Hospital Palembang because the use of the APAM system in the hospital has just been used and there has been no evaluation.

The data obtained were data from questionnaires in the outpatient unit and secondary data collected by searching documents to see documents related to the APAM system in outpatient registration.

This research variable consists of 1 *dependent* variable, namely user satisfaction and 5 *independent* variables consisting of Content, *Accuracy*, Format, *Ease* of *Use*, *Timeliness*.

Old patients in outpatient care are the population in this study. In this study, patients receiving outpatient services averaged 9,000 patients per month. Then determining the sample of this study using the Slovin formula. The sample in this study were outpatients who sought treatment at the polyclinic of *Bunda Hospital Palembang* who met the inclusion and exclusion criteria.

Inclusion criteria were geriatric patients who were over 50 years old, patients had been treated at *Bunda* Hospital *Palembang* (at least once, so there was already previous medical record data at B*unda* Hospital Palembang). Exclusion criteria were patients who had just been treated at *Bunda* Hospital *Palembang* (there was no medical record data at Bunda Hospital), patients were escorted by their families so that the one who did the registration was the family, patients were unable or could not use their hands, and blind patients.

Based on the calculation, the number of samples in this study was 99 respondents, rounded up to 100 respondents.

Inherent to quantitative research are the terms *validates* and *reliability*. Validity questions whether the research has measured what it should measure. The ways of measuring validity also vary both content-wise and empirically.

Content-wise, the tools to be used in measuring have logical validity, and *face validity*. This means that the researcher really reads what will be measured how the indicators and items, and whether the items made have reflected the real indicators. Likewise, whether the indicator is a reflection of the variable to be studied.

Empirical validity is done after doing logical validity and *face validity.* Before distributing to similar samples as instrument trials. Data collection tools are also better if they can be consulted with experts (*expert judgment)* at least 5 experts who assess the tools that will be used as data collectors. After analyzing the assessor's input using interrater statistical analysis, the quality of the tool can

be seen. Conducting the tool trial stage to a similar sample, then analyzing it to determine the validity and reliability indices of the tool.

The validity test is useful for knowing the validity or suitability of the questionnaire used by researchers in measuring and obtaining research data from respondents.

Reliability is the consistency of the tools used. This means that the level of sharpness of the tool has a fairly *reliable* number. This calculation can be done in various ways of calculating validity and reliability. The reliability test aims to see if the questionnaire has consistency if measurements are made with the questionnaire repeatedly.

To obtain comprehensive data and pay attention to the relationship of data with the focus and objectives, data collection techniques are used in the form of questionnaires, observation and study of *documents*. The three techniques complement each other in collecting data in accordance with the research focus.

Data analysis is carried out by processing data obtained from the results of the questionnaire which is primary data. Primary data is compared with secondary data obtained through observation of existing documents in accordance with the research process. Data review must be organized, studied, interpreted and interpreted, analyzed according to existing theory and experience.

The types of data analysis used are univariate, bivariate, and multivariate analysis. Univariate analysis was carried out to obtain an overview by describing the characteristics of respondents in tabular form.

RESULTS AND DISCUSSION

Table 1. Overview of Respondent Characteristics

Job Category	**N**	**Percentage %**
Employed	38	38%
Not working	62	62%
Sex	**N**	**Percentage %**
Male	52	52%
Female	48	48%
Age	**N**	**Percentage %**
50-59th	41	41%
60-69th	49	49%
>70th	10	10%
Education	**N**	**Percentage %**
SMP	10	10%
HIGH SCHOOL	65	65%
S1	23	23%
Postgraduate	2	2%
Category of Cell Phone Used	**N**	**Percentage %**
Regular	27	27%
Android	68	68%
IOS	5	5%

Based on the data above, it is known that of the 100 respondents studied, it was

found that respondents who did not have a job were 62% (62 people), gender found that male gender was a greater proportion than female, namely 52% male (52 people). Most respondents had an age between 60-69 years of 49% (49 people). Of the 100 respondents studied based on the education category, most respondents had a high school education, namely 65% (65 people). The majority of respondents use android phones by 68% (68 people). All respondents who register for outpatient care in the APAM system are old patients who have been registered at Bunda Hospital Palembang. For new patients who have not registered at Bunda Hospital Palembang, registration is through scanning barcodes by completing personal biodata through the Khanza ERM system.

Table 2 Univariate and multivariate analysis table

No.	Research Variable	variate Analysis					Multivariat e Analysis
			B	Std. Error	Beta	t	
1.	*Content*	3,49	.165	.092	.127	1.792	.075
2.	*Accuracy*	3,34	.237	.108	.209	2.189	.030
3.	Format	3,41	.068	.083	.056	.816	.415
4.	*Ease of use*	3,13	.643	.106	.475	6.066	.000
5.	*Timeliness*	3,33	.047	.079	.034	.588	.557
6.	Satisfaction	3,42					.968

Respondents' responses to the answers to the *content* variable obtained an average of 3.49 which is included in the satisfied category, this shows that geriarti patients are satisfied with the *content* or content of the Automated Patient Registration System (APAM) at Bunda Hospital Palembang.

Respondents' responses to the answers to the *accuracy* variable obtained an average of 3.34 which is included in the moderately satisfied category. which is good enough according to geriarti patients who register using the Automated Patient Registration System (APAM) at Bunda Hospital Palembang.

Respondents' responses to the answers to the *format* variables obtained an average of 3.41 which is included in the satisfied category. And 3.13 which is included in the moderately satisfied category where all statements on the *ease of use* variable are in the moderately satisfied category. Respondents' responses to the answers to the *timeliness* variable obtained an average of 3.33 which is included in the moderately satisfied category where all statements on the *timeliness* variable are included in the moderately satisfied category.

Respondents' responses to the answers to the satisfaction variables obtained an average of 3.42 so that the researcher assessed that geriatric patients were satisfied with the Independent Patient Automated System (APAM) at Bunda Hospital Palembang.

Based on the above results, the researcher can conclude that the *accuracy* (X2) and *Ease of Use* (X4) variables have a parisal or independent influence on Patient Satisfaction (Y) in using the Automated Patient Automation System (APAM).The F test in this study was conducted to analyze the effect of *content* (X1), *accuracy* (X2), format (X3), *ease of use* (X4), *timeliness* (X5) variables on patient satisfaction (Y) in hospitals with: **H6:** i.e. *content* (X1), *accuracy* (X2), format (X3), *ease of use* (X4), *timeliness* (X5) simultaneously affect patient satisfaction in using the system (APAM) at the hospital. Based on the table, it can be seen that the P-value number is 0.000 <0.05, meaning that the regression coefficient **is significant,** so **Ho is rejected or Ha is accepted,** so it can be concluded that there is a significant effect simultaneously together with the independent variables *content* (X1), *accuracy* (X2), format (X3), *ease of use* (X4), *timeliness* (X5) on the dependent variable Patient satisfaction (Y).

DISCUSSION

1. The responses of respondents who answered the questionnaire on the *content* variable (content) obtained a total average of 3.49 which was included in the satisfied category, each statement item in the content variable (content) had an average with the satisfied category as well.
2. Responses from respondents who answered the *accuracy* variable obtained an average of 3.34 which is included in the quite satisfied category where all statements 2 to 7 of the *accuracy* variable have a value in the quite satisfied category so that the researcher considers that statements 2 to 7 on the *accuracy* variable are good enough according to geriatry patients who register using the Automated Patient Registration System (APAM) at Bunda Hospital Palembang.
3. Responses from respondents who answered the questionnaire on the format variable obtained a total average of 3.41 which was included in the satisfied category, with each statement having a satisfied value on statement items 1 to 4, but on statement items 5 to 7 had a fairly satisfied category value.
4. Responses from respondents who answered the ease of use variable obtained an average of 3.13 which is included in the quite satisfied category where all statements 1 to 7 on the ease of use variable are good enough according to geriatry patients who register using the Automated Patient Registration System (APAM) at Bunda Hospital Palembang.
5. Responses from respondents who answered the *timeliness* variable obtained an average of 3.33 which is included in the quite satisfied category where all statements 1 to 6 on the *timeliness* variable are good enough according to patients. The results of this study are relevant to research (Aswad et al., 2022 p.25) which argues that the time line variable with an average of 3.449 is in the very satisfied category.
6. The results of the F test using the *spss* statistical test in this study indicate that the independent variable variables *content* (X1), *accuracy* (X2), format (X3), *ease of use* (X4), *timeliness* (X5) have a simultaneous influence together on the dependent variable patient satisfaction (Y). Based on the table, it can be seen that the P-value number is 0.000 <0.05, meaning that the regression coefficient is significant, so Ho is rejected or Ha is accepted.

CONCLUSION

1. This study shows that the *content* of the Automated Patient Platform (APAM) system in the form of appearance, content, menu makes it easier for outpatient geriatric patients at Bunda Hospital Palembang to register. In addition to the availability of clear instructions around the location of the Automated Patient Platform.
2. This research shows that the *accuracy of the Automated* Patient Platform (APAM) system in the form of precise, reliable information, accurate data, the name and schedule of the appropriate doctor inputted, makes it easier for geriatric patients to do outpatient registration at Bunda Hospital Palembang. So as to increase the satisfaction of geriatric patients who register with the Automated Patient Automation System (APAM).
3. This study shows that the format of the Automated Patient Automation System (APAM) in the form of font display, font size, scheme and color on the monitor screen is very helpful for geriatric patients

in outpatient registration. This makes geriatric patients satisfied with the Automated Patient Automation System (APAM).

4. This study shows that the *ease of use of the* Automated Patient Automation System (APAM) in the form of location, placement of platforms, number of platforms and the presence of a standby officer near the platform makes it easier for geriatric patients to register. So that these things give satisfaction to geriatric patients in doing outpatient registration at Bunda Hospital Palembang.
5. This study shows that the *timeliness* of the Automated Patient Automation System (APAM) in the form of distance traveled, speed of processing, short queue time is very helpful for geriatric patients in registering. So it increases satisfaction in registration at the outpatient of Bunda Hospital Palembang.

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