
Patient Perceptions And Expectations Regarding Satisfaction With Online Outpatient Registration Services At Karangasem Regional General Hospital (RSUD Karangasem)

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Abstract

The advancement of digital systems in healthcare has prompted hospitals to implement online registration systems to enhance service effectiveness, reduce waiting times, and improve patient satisfaction. However, implementation challenges persist, such as scheduling mismatches for follow-up visits, data verification issues, and the need for patients to queue again at the registration counter. This study aims to examine patient perceptions and expectations regarding satisfaction with the outpatient online registration service at RSUD Karangasem. A qualitative method with a descriptive approach was employed, utilizing purposive sampling with nine participants. Data were collected through interviews and observations, using interview guides and observation sheets as research instruments. Interview data analysis involved data reduction, data presentation, and conclusion drawing. The results indicate that patient perceptions of the online registration system are generally positive due to the convenience, time efficiency, and flexibility it offers. Nevertheless, obstacles remain, including network disruptions, system errors, and suboptimal supporting facilities. These conditions create a gap between patient perceptions and expectations; patients desire a system that is more stable, fast, and accurate. In conclusion, while the outpatient online registration system at RSUD Karangasem has provided benefits, it has not yet fully met patient expectations. Therefore, continuous improvement of the system and supporting facilities is necessary to enhance patient satisfaction.

Keywords: Perception, Expectation, Patient Satisfaction, Online Registration, Outpatient.

INTRODUCTION

Hospitals are among the healthcare facilities provided by local governments to meet the healthcare needs of the community. Healthcare services are considered to be of high quality when they satisfy every service user. Consumers perceive quality healthcare services as those that are comfortable, pleasant, and delivered by friendly healthcare personnel, thereby providing overall satisfaction (Prasetyo et al., 2016).

The Outpatient Registration Unit serves as the admission point for patients seeking outpatient medical treatment at the hospital, including both self-paying patients and those covered by health insurance (BPJS). This unit, known as the Outpatient Registration Unit (TPPRJ), is responsible for receiving outpatient registrations and recording patient registration data. Efforts to improve the quality of services provided by the TPPRJ can only be effectively implemented after determining whether the services currently provided meet patients' expectations (Irmawati Mathar & Igayanti, 2021).

Achieving patient satisfaction is not an easy task and cannot be accomplished within a short period. Improving patient satisfaction requires various continuous efforts. One important aspect is recognizing that patient satisfaction is a long-term strategy requiring sustained commitment in terms of both financial resources and human resources.

Patient satisfaction largely depends on receiving high-quality healthcare services. It refers to the extent to which patients are satisfied with the quality of medical care they receive after evaluating their overall experience. Patients feel satisfied when healthcare services meet or exceed their expectations, and this satisfaction begins with the way they are treated throughout the course of their medical care (Ahmad, 2024).

In the current era of digital transformation, hospitals have increasingly adopted online registration systems, particularly within outpatient services. Online registration has become one of the strategic initiatives implemented by hospitals to identify patients' needs, reduce waiting times, improve patient satisfaction, and enhance service efficiency. A hospital's ability to meet patients' expectations can be

measured by the level of patient satisfaction, beginning from the patient's first arrival until they leave the hospital.

High-quality healthcare services are expected by every individual seeking medical consultation for their health problems. Patient satisfaction is essential for the sustainability of a hospital. Satisfaction is achieved when patients' expectations are fulfilled through the services provided by the hospital. Therefore, patient satisfaction and expectations should be continuously monitored and evaluated. Effective and efficient management enables hospitals to maintain a competitive advantage and ensure their sustainability in both the short and long term (Azwar, 2015).

At RSUD Dr. Harjono Ponorogo, an innovative Android-based online registration application has been introduced, particularly for outpatient services, including patients requiring post-hospitalization follow-up care or routine medical check-ups. Previously, the hospital relied on an offline registration system that required patients to queue for registration, often resulting in long waiting times, overcrowding, and uncertainty regarding service schedules, particularly at outpatient clinics. To address these issues, the Hospital's Electronic Data Management (PDE) team developed an application called "ANDALAN" RSUD Dr. Harjono Ponorogo. The application is available for download through the Google Play Store and is designed to facilitate online patient registration. In addition, it provides access to various healthcare information, including visit history, medication information, diagnostic support services, ambulance reservations, physicians' practice schedules, and inpatient bed availability (Mahardika, 2024).

A study entitled *The Level of Outpatient Satisfaction with the Online Registration System at Nur Hidayah Hospital, Bantul, in 2021* reported that the majority of participants rated the implementation of the online registration system as moderately satisfactory, accounting for 50 participants (46.3%). Meanwhile, 39 participants (36.1%) reported being satisfied, and 19 participants (17.6%) reported being dissatisfied. The questionnaire results indicated that dissatisfaction was primarily associated with the responsiveness dimension. Several participants expressed dissatisfaction because hospital staff did not respond promptly to registration requests submitted via telephone or WhatsApp.

Based on a preliminary study conducted at Karangasem Regional General Hospital (RSUD Kabupaten Karangasem) on December 29, 2025, data obtained from the Hospital Management Information System (SIMRS) showed that during the three-month period from July to August 2025, there were 16,921 online patient visits. Of these, 14,025 registrations were successfully processed directly through the online system, while 2,896 patients were still required to queue at the registration counter due to various issues, including incorrect follow-up appointment dates, fingerprint verification problems, post-inpatient follow-up registrations, and other administrative constraints.

RESEARCH METHODS

a. Research Design

This study employed a qualitative research design (Creswell, 2016). Data were collected through interviews and observations to explore the outpatient registration services at Karangasem Regional General Hospital (RSUD Karangasem). The study focused on the online registration services provided by the outpatient medical records department. Data collection was conducted through direct observation and in-depth interviews with patients and their family members to obtain comprehensive information regarding their experiences with the online registration service.

b. Research Setting and Period

This study was conducted at Karangasem Regional General Hospital (RSUD Kabupaten Karangasem), located at Jalan Ngurah Rai No. 58, Amlapura, Karangasem Regency, Bali, Indonesia. The research was carried out over a period of three weeks, from February 10 to March 2, 2026.

c. Conceptual Framework

The study population consisted of all patients who utilized the online registration system for outpatient services at Karangasem Regional General Hospital. Participants were selected using a random sampling technique. This study adopted a qualitative research design, with data collected through interviews. The collected data were subsequently analyzed to examine patients' perceptions, expectations, and satisfaction with the online outpatient registration service.

d. Unit of Analysis

The unit of analysis in this study comprised patients and their family members who used the online outpatient registration service at Karangasem Regional General Hospital. Participants were selected using purposive sampling, a non-probability sampling technique, based on their ability to provide relevant information concerning the research objectives. The primary focus of the study was to explore patients' perceptions, expectations, and satisfaction regarding the implementation of the online outpatient registration system. Although random sampling provides every member of the population with an equal opportunity to be selected, this study primarily emphasized purposive selection of informants who were considered capable of providing rich and meaningful information.

e. Research Variables

Research variables refer to characteristics or phenomena determined by the researcher for investigation in order to obtain information and draw conclusions. The variables examined in this study were patients' perceptions, expectations, and satisfaction regarding the online outpatient registration service.

f. Operational Definitions

In this study, perception was defined as the assessment made by patients and their family members regarding the online registration service at Karangasem Regional General Hospital. Expectation referred to patients' desires and expectations concerning the quality of the online registration service. Satisfaction was defined as the condition in which patients' needs, expectations, and preferences were fulfilled after receiving the online registration service. All variables were explored through semi-structured interviews.

g. Types of Data

This study primarily utilized primary data, which were collected directly from the research participants. Primary data were obtained through interviews with patients and their family members regarding their perceptions, expectations, and satisfaction with the online medical record registration service at Karangasem Regional General Hospital. Primary data are considered the main source of information because they are collected directly from the original source during the research process (Sulung & Muspawi, 2024). Secondary data, obtained from existing sources such as publications and official reports, were used to support the research findings and provide additional contextual information (Zakariah & Afriani, 2021; Undari, 2024).

h. Data Collection Technique

The primary data collection technique employed in this study was in-depth interviews. Interviews were conducted to obtain detailed information from relevant participants and to complement the observational findings. The interviews followed a semi-structured interview guide developed by the researcher. A digital camera and voice recorder were used to document and validate the information provided by the informants. The interview participants included patients, patients' family members, and online registration officers.

i. Research Instrument

The research instrument used in this study was a semi-structured interview guide developed by the researcher based on the objectives of the study. The interview guide was designed to explore patients' perceptions, expectations, and satisfaction regarding the online registration services provided by the outpatient medical records department at Karangasem Regional General Hospital.

RESULTS AND DISCUSSION

a. Identifying Patients' Perceptions of the Outpatient Online Registration Service at Karangasem Regional General Hospital

The findings revealed that patients generally had positive perceptions of the outpatient online registration system at Karangasem Regional General Hospital. Patients perceived that the system was more convenient and efficient than the previous manual registration system. These positive perceptions arose because patients experienced direct benefits from using the system, including the ability to register from home, reduced waiting times, greater convenience, ease of use, and flexibility. As expressed by the participants, the online registration system enabled them to complete the registration process without visiting the hospital in person, making the process faster and eliminating the need to arrive early to queue. Furthermore, patients perceived that the system improved service efficiency because the registration process was more organized and completed more quickly than under the previous manual system.

These findings are consistent with the objectives of hospital services as stipulated in the Republic of Indonesia Law No. 44 of 2009 concerning Hospitals, which emphasizes improving public access to healthcare services. Through the implementation of the online registration system, patients are able to access healthcare services more flexibly without physically visiting the hospital, thereby improving service efficiency and enhancing the quality of outpatient services. These findings are also supported by Dewi et al. (2025), who reported that online registration systems improve accessibility and service efficiency, resulting in more positive patient experiences. Their study further demonstrated that ease of use and accessibility are the primary factors influencing positive patient perceptions of digital healthcare services.

Positive patient perceptions of the outpatient online registration system at Karangasem Regional General Hospital were influenced not only by improved accessibility but also by the transition from a manual registration process to a more practical and efficient digital system. This finding suggests that the digitalization of healthcare services can improve patient convenience and overall experience, thereby contributing to better healthcare service quality.

b. Identifying the Problems and Barriers Experienced by Patients

Although patients generally perceived the outpatient online registration system positively, the study identified several barriers affecting its use. The most frequently reported problems involved technical issues, including unstable internet connections, system errors, and malfunctioning online queue machines. These findings indicate that the implementation of the online registration system has not yet achieved optimal performance in terms of technical infrastructure. Within the context of perception theory, these obstacles represent perceived barriers that may influence users' evaluations of the system. Participants explained that unstable internet connections frequently interrupted the registration process, system errors required them to repeat registration procedures, and malfunctioning online queue machines forced patients to wait in manual queues despite having registered online.

These findings are consistent with Gustini and Susilawati (2022), who reported that technical problems, including system errors, limited system features, and accessibility issues, constitute major barriers to online registration systems and negatively affect patient experiences and satisfaction. According to the End User Computing Satisfaction (EUCS) model, these barriers primarily affect the Timeliness dimension because the system does not consistently provide timely services, the Ease of Use dimension because technical problems reduce usability, and the Format dimension because supporting facilities, such as online queue machines, are not functioning optimally.

The presence of technical barriers demonstrates that adequate technological infrastructure remains a crucial factor for the successful implementation of online registration systems. Although the system was designed to simplify healthcare services, its potential benefits cannot be fully realized without reliable technical support. Therefore, continuous improvements in both the system and its supporting infrastructure are necessary to ensure stable, effective, and efficient service delivery while improving patient satisfaction.

c. Analyzing Patients' Expectations of the Online Registration Service

The technical problems experienced by patients during the use of the outpatient online registration system generated high expectations for further improvements. The findings indicate that patients expect continuous enhancement of the online registration system, including improved supporting facilities, greater system stability, more accurate service scheduling, and wider accessibility for all members of the community.

Participants expressed expectations that the online registration system should be continuously improved by enhancing the performance of the online queue machine, minimizing system errors, providing more accurate waiting time predictions, developing a more integrated information system, offering free Wi-Fi, and improving overall system reliability to reduce technical disruptions. These responses indicate that patients expect a system that is not only user-friendly but also stable, efficient, and accessible regardless of technical or network limitations. Although patients acknowledged the benefits of the online registration system, they believed that the quality of service had not yet fully met their expectations.

These findings are supported by Muchsam et al. (2025), who found that although patient satisfaction was generally good, patients still expressed high expectations for continuous improvements in service quality to achieve optimal healthcare standards. Therefore, the high expectations demonstrated by patients reflect the existence of a service quality gap between expected and perceived performance. This finding is consistent with Wijono's (2008) patient satisfaction theory, which states that satisfaction results from comparing expectations with actual service performance.

The high expectations expressed by patients indicate that society has developed increasingly higher standards for digital healthcare services. Consequently, the success of digital healthcare systems should not be evaluated solely based on their functionality but also on their ability to consistently meet users' expectations. Continuous development and improvement of the outpatient online registration system are therefore essential to fulfill patient expectations and further improve service quality.

d. Evaluating the Gap Between Patients' Perceptions and Expectations

The findings demonstrated a noticeable gap between patients' perceptions and expectations regarding the outpatient online registration system at Karangasem Regional General Hospital. On one hand, patients viewed the system positively because it provided convenience, faster registration, and greater efficiency. Interview participants stated that the system allowed them to register from home, simplified the registration process, and reduced waiting times compared with the previous manual system. On the other hand, patients expected the system to operate more reliably without technical problems, provide greater system stability, and be supported by adequate facilities. Interviews revealed that patients occasionally had to queue manually despite registering online because of system failures or malfunctioning online queue machines.

These findings are consistent with Pebriani et al. (2023), who reported that online registration systems significantly influence patient satisfaction but that gaps remain between patient expectations and actual service quality due to technical problems and limited system accessibility. Within the End User Computing Satisfaction (EUCS) framework, this gap is reflected across several dimensions. The Content and Accuracy dimensions performed well because the system provided reliable information and accurate patient data. However, weaknesses were identified in the Format dimension due to suboptimal supporting facilities, particularly the online queue machines. Similarly, although patients generally considered the system easy to use, technical problems reduced performance on the Ease of Use dimension. Furthermore, although the system accelerated registration, technical disruptions reduced its performance in the Timeliness dimension.

Although patients generally perceived the outpatient online registration system positively because it improved convenience and efficiency, the high expectations that remained unmet, particularly regarding Timeliness, Ease of Use, and Format, indicate that patient satisfaction has not yet reached its optimal level. Consistent with Wijono's (2008) theory of patient satisfaction, these findings demonstrate that differences between expected and actual service performance can significantly influence overall patient satisfaction. The identified gap indicates that while the outpatient online registration system has successfully delivered practical benefits, further improvements are needed to enhance service quality. Successful implementation should therefore be measured not only by convenience but also by the consistency of system performance, including system stability, service timeliness, and the optimization of supporting facilities, so that the gap between patient perceptions and expectations can be minimized and patient satisfaction can be maximized.

e. Factors Influencing Patient Satisfaction

Consistent with the gap identified between patients' perceptions and expectations, patient satisfaction with the outpatient online registration service at Karangasem Regional General Hospital was influenced by several factors, including ease of use, service timeliness, data accuracy, and comfort during the service process. Interview findings showed that the online registration system could be accessed from anywhere without requiring patients to visit the hospital, thereby providing flexibility and saving time. Nevertheless, these advantages were sometimes reduced by unstable internet connections and system errors, which negatively affected patient satisfaction.

Regarding timeliness, participants considered the online registration system effective in accelerating the registration process, particularly in obtaining queue numbers, although technical disruptions occasionally required patients to repeat the registration process. Data accuracy also contributed positively to patient satisfaction because the system was integrated with official databases, including BPJS and national identity records, and incorporated validation mechanisms that minimized data entry errors. Furthermore, patient comfort was associated with smooth service delivery and the availability of supporting facilities such as online queue machines and internet access. However, patient comfort was not fully optimized because technical problems occasionally forced patients to queue manually despite having registered online.

These findings are supported by Anshyori et al. (2025), who identified ease of use, service speed, and data accuracy as the primary determinants of patient satisfaction with online registration systems. According to Wijono (2008) and Sabarguna (2004), patient satisfaction is influenced by administrative procedures, waiting time, comfort, and supporting facilities. In this study, administrative procedures became simpler through online registration, although system errors occasionally disrupted the process. Waiting times were generally shorter than under the manual system but remained inconsistent because of technical problems. Comfort improved because patients could register from home; however, unstable internet connections sometimes reduced this benefit. Likewise, supporting facilities, including online queue machines and internet access, were considered inadequate.

These influencing factors are interconnected, meaning that problems in one aspect directly affect overall patient satisfaction. Consequently, improving patient satisfaction requires comprehensive improvements involving the information system, technological infrastructure, and supporting facilities. Optimizing these factors is expected to reduce the gap between patient perceptions and expectations while enhancing patient satisfaction with healthcare services at Karangasem Regional General Hospital.

This study has several limitations. First, the number of participants was relatively limited and may not fully represent all patients using the outpatient online registration system. Second, the study primarily focused on patients' experiences and did not comprehensively explore the perspectives of registration staff or the technical performance of the online registration system itself. Therefore, future studies are recommended to include a larger number of participants and to conduct a more comprehensive evaluation that incorporates both user experiences and technical system performance.

CONCLUSIONS

The patients' perceptions of the outpatient online registration system at Karangasem Regional General Hospital (RSUD Karangasem) were generally positive, as the system was considered easier, more practical, and more efficient compared to the previous manual system, and it was also able to reduce waiting time in queues. However, patients experienced several barriers in using the system, including technical problems such as unstable internet connections, system errors, and issues with the online queue machine, which sometimes required them to repeat the registration process or still queue manually.

Patients also expressed expectations for further improvement of the outpatient online registration system at RSUD Karangasem, particularly in terms of system stability, service timeliness, and the provision of additional supporting facilities, as a response to their experiences of encountering various technical issues. In addition, there was a gap between patients' perceptions and expectations of the online registration system, as the system has not yet fully met user expectations, especially in relation to the three EUCS indicators, namely Timeliness, Ease of Use, and Format.

Furthermore, patient satisfaction with the outpatient online registration system at RSUD Karangasem was influenced by several factors, including ease of use, service speed, data accuracy, and comfort during the service process. Although these factors have provided benefits to patients, technical constraints and limitations in supporting facilities still affect the overall level of patient

satisfaction. Therefore, continuous improvement of the system is required to enhance service quality sustainably.

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