

## THE RELATIONSHIP BETWEEN THE USE OF AN ONLINE REGISTRATION APPLICATION AND OUTPATIENT SATISFACTION AT BANGIL REGIONAL GENERAL HOSPITAL

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### ABSTRACT

The implementation of an online registration application is a healthcare service innovation that facilitates access to healthcare services. However, it still faces various challenges that may affect patient satisfaction. This study aimed to analyze the relationship between the use of an online registration application and outpatient satisfaction at Bangil Regional General Hospital. This study employed a correlational analytic design with a cross-sectional approach involving 101 respondents selected using the consecutive sampling technique. The data were analyzed using the Spearman Rank test. The results showed that the majority of respondents had good application use, with 57 respondents (56.4%), and were satisfied with the healthcare services, with 56 respondents (55.4%). The Spearman Rank test revealed a p-value of 0.001 and a correlation coefficient (r) of 0.419, indicating a positive relationship with a moderate correlation strength. It was concluded that there was a significant relationship between the use of an online registration application and outpatient satisfaction at Bangil Regional General Hospital.

**Keywords:** *online registration application, patient satisfaction, outpatient services.*

### INTRODUCTION

The development of information technology has driven the transformation of healthcare services, one of which is through the implementation of an online registration system in hospitals. The online registration system is a digital-based healthcare service innovation that aims to facilitate public access to healthcare services, accelerate administrative processes, and improve the efficiency and quality of healthcare services (Mukaromah & Natalia Sabatyaningsih, 2025). In addition, healthcare service standards stipulate that the waiting time for outpatients should be less than 60 minutes. Therefore, the implementation of an online registration system is expected to reduce patient queues and increase patient satisfaction with healthcare services. (Hastuti, 2023)

However, the implementation of the online registration system still faces various challenges. A study by (Wardani, 2025) showed that the utilization of online registration services in several hospitals has not yet reached the established targets. Low digital literacy, difficulties in operating the application, and limited public understanding of technology are factors contributing to the low utilization of online registration services (Ikawati, 2025). A study by (Sitepu & Syafii, 2025) also reported that application login problems, limited service quotas, and discrepancies in service schedules have led some patients to continue choosing direct registration at hospitals.

This phenomenon was also found at Bangil Regional General Hospital. Based on the results of a preliminary observation conducted on February 20, 2026, queues at the registration counter were still crowded despite the availability of an online registration service. Data on Mobile JKN usage showed that the percentage of application users ranged

from 36.02% in January and increased to 46.97% in December; however, it had not yet reached 50% of the total outpatient visits. In addition, several patients complained about difficulties logging into the application, slow application server performance, and discrepancies between the schedules displayed in the system and the actual service schedules. These conditions indicate that the utilization of the online registration application at Bangil Regional General Hospital has not yet been optimal.

Patient satisfaction is one of the important indicators used to assess the quality of healthcare services in hospitals. Patient satisfaction is formed through a comparison between patients' expectations and the services they receive during the provision of healthcare services.(Anggraeni, 2024). Patient satisfaction is one of the important indicators used to assess the quality of healthcare services in hospitals. Patient satisfaction is formed through a comparison between patients' expectations and the services they receive during the provision of healthcare services (Nur Azizah & Susi Susanti, 2024).

Several studies have shown a relationship between the use of an online registration system and patient satisfaction. A study (Saputra et al., 2020) conducted at Muhammadiyah Hospital Lamongan found that the ease of using the online registration system was associated with the level of patient satisfaction. A study conducted at Husada Hospital Jakarta also showed that system-related problems, such as login errors and discrepancies in physicians' practice schedules, could affect patient satisfaction with outpatient services. These findings indicate that the quality of the online registration system is one of the factors influencing patient satisfaction.

The relationship can be explained by the Technology Acceptance Model (TAM), which states that an individual's acceptance of a technology is influenced by perceived usefulness and perceived ease of use (Rahman & Chaniago, 2025). The higher the patients' perceptions of the ease of use and usefulness of the online registration application, the greater the likelihood that they will be satisfied with the healthcare services they receive. Therefore, optimizing the use of the online registration application has become one of the important strategies for improving the quality of hospital healthcare services.

Numerous studies have been conducted on the use of online registration applications and patient satisfaction. However, studies examining the relationship between the use of an online registration application and outpatient satisfaction at Bangil Regional General Hospital are still relatively limited. Therefore, this study aimed to analyze the relationship between the use of an online registration application and outpatient satisfaction at Bangil Regional General Hospital.

## **METHOD**

This study employed a correlational analytic design with a cross-sectional approach to analyze the relationship between the use of an online registration application and outpatient satisfaction at Bangil Regional General Hospital. The study was conducted in 2026 at Bangil Regional General Hospital, Pasuruan Regency, East Java, Indonesia. The study population consisted of 200 outpatients who used the online registration application. The sampling technique used was consecutive sampling; therefore, all respondents who met the inclusion and exclusion criteria were included in the study until the required sample size of 101 respondents was achieved.

Data were collected using two research instruments: a questionnaire on the use of the online registration application, which was developed based on the indicators of the Technology Acceptance Model (TAM), including perceived usefulness, perceived ease of use, attitude toward using, behavioral intention to use, and actual system use; and a patient satisfaction questionnaire based on the SERVQUAL concept, including tangibles, reliability, responsiveness, assurance, and empathy. All respondents completed the questionnaires independently after receiving an explanation of the study objectives and providing their informed consent to participate in the study.

Data were analyzed using IBM SPSS Statistics. Univariate analysis was performed to describe the characteristics of the respondents and the distribution of each research variable. The relationship between the use of the online registration application and outpatient satisfaction was analyzed using the Spearman Rank test because both variables were measured on an ordinal scale. Statistical significance was set at  $p < 0.05$ .

## FINDING AND DISCUSSION

### RESEARCH RESULT

| Karakteristik | Kategori           | Frekuensi | Persentase (%) |
|---------------|--------------------|-----------|----------------|
| Usia          | 18–25 tahun        | 58        | 57.4           |
|               | 26–35 tahun        | 22        | 21.8           |
|               | 36–45 tahun        | 15        | 14.9           |
|               | 46–55 tahun        | 6         | 5.9            |
|               | >55 tahun          | 0         | 0,0            |
|               | Jumlah             | 101       | 100,0          |
| Jenis Kelamin | Laki-laki          | 28        | 27.7           |
|               | Perempuan          | 73        | 72.3           |
|               | Jumlah             | 101       | 100,0          |
| Pendidikan    | SD/SMP/ Sederajat  | 18        | 17.8           |
|               | SMA/ SMK/Sederajat | 65        | 64.4           |
|               | Perguruan Tinggi   | 18        | 17.8           |
|               | Jumlah             | 101       | 100,0          |
| Pekerjaan     | Tidak bekerja      | 0         | 0,0            |
|               | Swasta             | 61        | 60.4           |
|               | Wiraswasta         | 21        | 20.8           |
|               | ASN                | 6         | 5.9            |
|               | Petani             | 13        | 12.9           |
|               | Lain-lain          | 0         | 0.0            |
|               | Jumlah             | 101       | 100,0          |

The majority of the respondents were aged 18–25 years (57.4%), were female (72.3%), had a senior high school/vocational high school education or equivalent (64.4%), and were employed in the private sector (60.4%). No respondents were over 55 years of age, unemployed, or engaged in occupations outside the predetermined categories.

**Table 4.2. Distribution of Online Registration Application Use and Outpatient Satisfaction**

| No    | Penggunaan aplikasi pendaftaran online | Frekuensi | presentase |
|-------|----------------------------------------|-----------|------------|
| 1     | Baik                                   | 57        | 56.4       |
| 2     | Kurang Baik                            | 44        | 43,6       |
| Total |                                        | 101       | 100,0      |
|       | Kepuasan Pasien rawat jalan            | Frekuensi | presentase |
| 1     | Puas                                   | 56        | 55,4       |
| 2     | Kurang Puas                            | 45        | 44,6       |
| Total |                                        | 101       | 100,0      |

The majority of respondents had a good level of online registration application use (56.4%), whereas 43.6% were categorized as having poor application use. Meanwhile, outpatient satisfaction was predominantly categorized as satisfied (55.4%), while 44.6% of respondents were categorized as dissatisfied.

**Table 4.3. Relationship Between the Use of the Online Registration Application and Outpatient Satisfaction**

| Penggunaan<br>Aplilasi | Kepuasan Pasien |      |      |      | Total |     | Spearman rho   |       |
|------------------------|-----------------|------|------|------|-------|-----|----------------|-------|
|                        | Kurang Puas     |      | Puas |      |       |     |                |       |
|                        | n               | %    | n    | %    | n     | %   | <i>p-value</i> | r     |
| Kurang Baik            | 30              | 68,2 | 14   | 31,8 | 44    | 100 | 0,001          | 0,419 |
| Baik                   | 15              | 26,3 | 42   | 73,7 | 57    | 100 |                |       |
| Total                  | 45              | 44.6 | 56   | 55.4 | 101   | 100 |                |       |

The analysis showed that the majority of respondents with good use of the online registration application were satisfied with the healthcare services, accounting for 42 respondents (73.7%). Meanwhile, respondents with poor use of the online registration application were predominantly dissatisfied, accounting for 30 respondents (68.2%). The results of the Spearman Rank test indicated a significant relationship between the use of the online registration application and outpatient satisfaction ( $p = 0.001$ ), with a correlation coefficient ( $r$ ) of 0.419, indicating a positive relationship with a moderate correlation strength.

## DISCUSSION

The findings of this study on the use of the online registration application among outpatients at Bangil Regional General Hospital showed that the majority of respondents demonstrated good use of the online registration application (56.4%). These findings indicate that most patients have been able to utilize the online registration application as a means of accessing healthcare services more easily and efficiently. This ability may be influenced by

several factors, such as productive age, educational level, experience in using technology, and ease of accessing the Mobile JKN application. Nevertheless, there were still respondents categorized as having poor application use (43.6%), indicating that some patients continued to experience difficulties in utilizing the online registration service optimally. This condition may be influenced by limited digital literacy, inadequate understanding of how to use the application, and technical problems within the system (Ikawati, 2025).

These findings are consistent with the Technology Acceptance Model (TAM), which explains that an individual's acceptance of a technology is influenced by perceived usefulness. (Perceived Usefulness) and perceived ease of use. (Perceived Ease of Use) (Rahman & Chaniago, 2025). Individuals who perceive a system as useful and easy to use tend to develop a positive attitude and a stronger intention to continue using the technology. Conversely, if the system is perceived as difficult to use or does not provide tangible benefits, the level of user acceptance of the technology will decrease. These findings are supported by a study (Wardani, 2025) and (Melynda et al., 2025) reporting that perceived ease of use and perceived usefulness are important factors in increasing the utilization of online registration systems in hospitals.

The findings on outpatient satisfaction showed that the majority of respondents were categorized as satisfied (55.4%), whereas 44.6% of the respondents were categorized as dissatisfied. These findings indicate that most patients have experienced the benefits of the healthcare services provided by the hospital, particularly in terms of ease of access, service efficiency, and the quality of administrative services.

The level of patient satisfaction may be influenced by various factors, such as the quality of healthcare services, communication between healthcare providers and patients, the hospital's physical environment, as well as the administrative system and the service delivery process. (Rahmah et al., 2026). In addition, the ease of accessing healthcare services through the online registration system also plays an important role in enhancing patients' experiences during the delivery of healthcare services. (Anggraeni, 2024).

According to the SERVQUAL concept, patient satisfaction is influenced by five main dimensions, namely tangibles, reliability, responsiveness, assurance, and empathy. (Ardhana et al., 2024). A well-functioning online registration system can improve patients' perceptions of service quality through ease of access, service efficiency, and certainty of service schedules. However, the fact that some patients remain dissatisfied indicates that the quality of healthcare services still needs to be improved, particularly in terms of system reliability and service accuracy. These findings are consistent with a study (Yulianti, 2025) and (Nur Azizah & Susi Susanti, 2024) reporting that the quality of the service system and the ease of administrative procedures have a significant influence on patient satisfaction in obtaining healthcare services.

The results of the analysis examining the relationship between the use of the online registration application and outpatient satisfaction using the Spearman Rank test showed a significant relationship between the use of the online registration application and outpatient satisfaction at Bangil Regional General Hospital ( $p = 0.001$ ;  $r = 0.419$ ). The correlation coefficient indicated a positive relationship with moderate strength, meaning that the better the use of the online registration application, the higher the level of outpatient satisfaction. These findings suggest that the use of the online registration application is one of the factors contributing to the improvement of patients' experiences in obtaining healthcare services.

Patients who are able to use the application effectively tend to experience greater convenience during the registration process, greater certainty regarding service schedules, and reduced waiting times, thereby leading to higher patient satisfaction.

These findings are consistent with the Technology Acceptance Model (TAM), which explains that perceptions of the ease of use and usefulness of technology influence users' attitudes toward the system as well as the level of satisfaction experienced after using the technology. (Rahman & Chaniago, 2025). When patients perceive that the online registration application is easy to use and provides tangible benefits, their positive perception of healthcare services also increases. Conversely, if patients experience difficulties in accessing the application or encounter technical problems during its use, their level of satisfaction tends to decrease.

These findings are also consistent with previous studies by (Saputra et al., 2020), (Sitepu & Syafii, 2025), and (Agil, 2025) which reported that the quality of the online registration system is associated with patient satisfaction with healthcare services. Nevertheless, the correlation coefficient in this study was categorized as moderate, indicating that patient satisfaction is influenced not only by the use of the online registration application but also by other factors, such as the quality of healthcare services provided by healthcare professionals, waiting time, hospital facilities, and communication between healthcare providers and patients. Therefore, improving patient satisfaction requires a comprehensive approach, not only by optimizing the online registration system but also by enhancing the overall quality of healthcare services.

## CONCLUSION

This study showed that the majority of outpatients at Bangil Regional General Hospital demonstrated good use of the online registration application, and most patients were satisfied with the healthcare services they received. The results of the analysis revealed a significant relationship between the use of the online registration application and outpatient satisfaction, with a positive direction and a moderate correlation strength. These findings indicate that the better the use of the online registration application, the greater the likelihood that patients will be satisfied with the outpatient services they receive. Therefore, efforts to optimize the online registration system through improving application quality, enhancing ease of access, and providing patient education on the use of the application should be continuously implemented to support the improvement of healthcare service quality at Bangil Regional General Hospital.

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