THE INFLUENCE OF HOSPITAL INFORMATION SYSTEM AND SERVICE TIME ON PATIENTS' SATISFACTION

Runi Hoirunisa[1*], Ratih Tresnati[2], Rachmat Suyanto[3]

[1]*Magister of Management Study Program, Faculty of Economy and Business, Universitas Islam Bandung*
[2]*Magister of Management Study Program, Faculty of Economy and Business, Universitas Islam Bandung*
[3]*Magister of Management Study Program, Faculty of Economy and Business, Universitas Islam Bandung*

ABSTRACT

The research conducted at Soreang Hospital delved into the intricate dynamics of patient satisfaction, particularly concerning the interplay between Hospital Management Information Systems (HMIS), service time, and overall patient experience. The study, which encompassed feedback from a diverse sample of 100 respondents, provided invaluable insights into the effectiveness of HMIS and service delivery mechanisms in shaping patient perceptions. An analysis of the data revealed encouraging findings regarding the perceptions of HMIS and service time among patients. HMIS garnered a commendable score of 68.19%, signifying a positive outlook on its functionality and utility. Similarly, service time received a favourable rating of 69.12%, indicating that patients generally found the hospital's service delivery to be efficient and timely. Moreover, the overall patient satisfaction rating stood at an impressive 67.27%, reflecting a generally positive sentiment towards the quality of care received at Soreang Hospital. Statistical tests further corroborated these findings, with no evidence of heteroscedasticity observed in the regression model. This statistical validation lends credibility to the conclusions drawn from the data analysis, affirming the robustness of the study's findings. The study's most significant revelation pertained to the collective influence of HMIS and service time on patient satisfaction. It became evident that these two factors are intricately intertwined, with improvements in HMIS functionality and service delivery efficiency directly translating into enhanced patient satisfaction levels. However, despite the overall positive feedback, certain areas for improvement were identified, particularly in reducing registration and waiting times. Moving forward, it is imperative for Soreang Hospital to capitalize on the strengths highlighted in the study while simultaneously addressing the identified areas for enhancement. By leveraging HMIS capabilities to streamline processes and optimize service delivery, the hospital can further elevate patient satisfaction levels and solidify its reputation as a provider of high-quality healthcare services in the community. Through continuous evaluation and refinement, Soreang Hospital can ensure that it remains at the forefront of healthcare excellence, meeting the evolving needs and expectations of its patients.

Keyword: *Hospital, information management system, service time, patients' satisfaction.*

1. INTRODUCTION

The pivotal role of hospitals as healthcare providers profoundly impacts endeavours aimed at enhancing the well-being of individuals. As societal consciousness regarding personal and familial health maintenance burgeons alongside technological advancements facilitating rapid and precise information dissemination, the demand for high-quality healthcare services surges correspondingly. Consequently, each hospital is compelled to refine its service offerings to bolster the efficacy and efficiency of patient care processes. Management Information Systems (MIS) represent instrumental information systems employed to bolster organizational operations, management, and decision-making processes [1-3].

An effective information system holds the potential to significantly enhance hospital performance. The implementation of activities within the hospital setting, such as SIM-RS, is fortified by the provisions stipulated in Law Number 44 of 2009 concerning Hospitals. This legislation mandates that hospitals ensure operational convenience and possess the capability to address challenges pertaining to patient services. According to data from the Ministry of Health as of July 2020, approximately 72% of hospitals in Indonesia—totalling 1479 out of 2588—are equipped with functional HMIS. However, a notable 28% of these hospitals face suboptimal operational utilization. Furthermore, as indicated by Hutahaean et al. [4], the overarching objective of HMIS revolves around furnishing high-quality information accessible to all units to inform decision-making processes. The performance of HMIS is evaluated based on various data quality dimensions including accuracy, reliability, completeness, timeliness, integrity, and confidentiality. Notably, HMIS assumes a critical role in the accreditation process by providing pertinent information regarding the hospital's organizational structure, facilitating the implementation of Standard Operating Procedures (SOPs), and enhancing overall customer service [5].

Quality improvements in health services are crucially aimed at meeting the diverse health needs of individuals. In delineating the dimensions of quality within health services, the seminal work "Quality of Care" identifies several key facets, namely effectiveness, efficiency, accessibility, acceptability (or patient-centeredness), fairness, and safety. One pivotal dimension underscoring health service quality is access to services, with waiting time serving as a critical metric. Waiting time, as defined by the Indonesian Ministry of Health in 2007, encompasses the duration patients wait within hospital premises in anticipation of various health services, including but not limited to medical record retrieval, emergency care, and polyclinic consultations. According to [6], [7], the waiting period experienced by patients awaiting polyclinic consultations commences upon registration and concludes upon their entry into the consultation room.

Aligned with the guidelines delineated in the Republic of Indonesia Minister of Health Decree No.129/Menkes/SK/IV/2008 pertaining to outpatient services, the waiting time indicator for outpatient consultations is established at 60 minutes, encompassing the interval from patient registration to specialist consultation initiation. Drawing upon surveys and preliminary studies conducted by researchers during October to December 2022 at Soreang District Hospital, waiting times for outpatient services were comprehensively examined through interviews and observational assessments. These endeavours sought to elucidate the efficacy of existing waiting time protocols and identify potential avenues for improvement within the outpatient service framework.

The findings indicate that the implementation of waiting time protocols for outpatient services remains suboptimal, particularly concerning non-BPJS patients. This deficiency is evident in prolonged waiting periods endured by patients seeking outpatient care, from registration to entry into the polyclinic room. Consequently, numerous patients express dissatisfaction and frustration, as they anticipate prompt access to medical services. The protracted waiting times exacerbate patient distress, leading to heightened anxiety and boredom, exacerbated by the constraints of limited outpatient service durations. Consequently, patients frequently seek clarification from polyclinic staff regarding service delays.

The waiting time dimension encompasses four distinct aspects: objective, subjective, cognitive, and affective. The objective aspect pertains to the actual duration patients spend waiting, while the subjective aspect reflects patient expectations regarding wait times. The cognitive dimension involves patients' evaluations of the waiting process, encompassing factors such as transparency and communication. Finally, the affective dimension encompasses patients' emotional responses to waiting, including feelings of frustration, anxiety, and dissatisfaction. Extended waiting times not only compromise patient comfort but also indicate systemic failures within the outpatient service framework. Addressing these deficiencies necessitates a multifaceted approach encompassing enhanced operational efficiency, streamlined processes, and improved communication to mitigate patient dissatisfaction and optimize the outpatient experience.

Understanding patient needs and desires is paramount for ensuring patient satisfaction, a pivotal aspect of successful healthcare delivery. Satisfied patients serve as valuable assets to hospitals, fostering loyalty and positive word-of-mouth referrals. Conversely, dissatisfied patients are more likely to share negative experiences, potentially tarnishing the hospital's reputation. To cultivate patient satisfaction, hospitals must prioritize the establishment and management of systems aimed at attracting and retaining patients. This entails tailoring care to meet individual patient preferences, fostering clear and empathetic communication between healthcare providers and patients, minimizing wait times, ensuring high standards of clinical excellence and patient safety, providing avenues for patient feedback, and empowering patients with comprehensive health education. By prioritizing patient satisfaction and implementing strategies to meet patient needs effectively, hospitals can foster enduring relationships with patients and ensure long-term success in healthcare delivery.

In line with the need to improve the quality of health services provided, Soreang Regional Hospital is currently reviewing the performance of its hospital management information system in the registration section. The objective

is to gather data that can be used as a basis for developing the system. Two points have emerged from the data analysis that require evaluation in the services provided to the community, especially in the outpatient department. The first point of concern is operational constraints, indicating potential challenges or obstacles affecting the smooth delivery of healthcare services. Identifying and addressing these constraints is essential for optimizing operational processes and improving service quality.

The second point of concern is the completion time element, particularly regarding the duration required to complete various services, including online registration for outpatient care. The data suggest that completion times are below average, signalling inefficiencies in service delivery that need to be addressed. Addressing these challenges requires a comprehensive approach. This involves assessing operational workflows to identify bottlenecks, implementing targeted interventions to streamline processes, investing in staff training and capacity building, leveraging technology to automate administrative tasks, and soliciting feedback from patients and stakeholders to guide improvement efforts. By addressing these key points, Soreang Regional Hospital can enhance the quality of healthcare services provided to the community, ultimately improving patient satisfaction and outcomes.

Users and organizations may encounter various potential problems with the utilization of the Hospital Management Information System (HMIS). These challenges necessitate a re-evaluation of its use to address shortcomings and capitalize on opportunities for improvement. The evaluation outcomes serve as a valuable reference point for enhancing and refining HMIS, aligning it more closely with organizational goals, vision, and mission [8]. Some potential problems users and organizations may face with HMIS include technical issues such as system crashes or slow performance, usability challenges due to a complex interface, data integrity concerns arising from inaccurate or incomplete data entry, integration challenges with other hospital systems, training and adoption barriers, and cost and resource constraints. Addressing these potential problems requires a comprehensive approach, including conducting a thorough assessment of user needs and system requirements, engaging stakeholders in the evaluation process, implementing targeted interventions to address identified issues, and monitoring and evaluating the impact of interventions on system performance and user satisfaction over time. By re-evaluating and addressing the challenges associated with HMIS utilization, hospitals can optimize the system to better meet patient needs and support organizational objectives. Ultimately, enhancing patient satisfaction is a key measure of a hospital's ability to deliver quality healthcare services [9], [10].

To ensure the quality of health services, the primary measure is meeting the needs and demands of health service users. Successful fulfilment of these leads to a sense of client satisfaction, also known as Customer Satisfaction, with health services. Therefore, the quality of health services can be defined as the degree of excellence in healthcare provision that results in satisfaction for each patient. As articulated by [11], [12], the higher the level of satisfaction achieved, the better the quality of health services provided. Several previous researchers [13-16], have examined the relationship between hospital information systems and service time in conjunction with patient satisfaction. Diah's study found that the element of time, encompassing both registration time and health service time, significantly influences patient satisfaction. This suggests that patients express their satisfaction based on a combination of factors, including the efficiency of registration processes, the timeliness of health services, as well as other aspects such as the quality of care and the cleanliness of healthcare providers.

A study found that while the performance aspect of the registration section and service staff was considered quite good, the reporting section lagged [17], [18]. Additionally, the information aspect of the system was deemed inadequate across all units, failing to meet the hospital's statistical data needs. Similarly, the economy aspect of the system was criticized for necessitating cross-checking of data. System constraints refer to limitations hindering a system from achieving its optimal performance [1]. These constraints can be analysed using various methods, such as the PIECES method, which assesses system constraints based on Performance, Information, Economics, Control, Efficiency, and Service system aspects. Based on this, the research aimed to investigate HMIS and service time at Soreang Hospital using the PIECES method to understand their influence on patient satisfaction. The study sought to provide valuable insights for improving HMIS performance and service time at the hospital while elucidating the relationship between HMIS implementation, service time, and enhanced patient satisfaction. The research is anticipated to yield important findings to enhance both system performance and patient satisfaction levels at Soreang Hospital.

2. METHOD

This research adopts a quantitative research approach, which allows for an objective investigation through the collection and analysis of quantitative data using statistical methods. Quantitative research aims to test theories by examining relationships between variables, which are measured using instruments developed based on a literature review [19]. In this study, a sample of 100 individuals was selected from a total of 25,242 patients. The sampling technique employed was simple random sampling, wherein members of the population are randomly selected

without regard to any strata within the population [20]. Data for the study was collected using questionnaires, which were distributed to research respondents. The collected data, comprised of both primary data obtained directly from field surveys and secondary data obtained from documentation studies, was analysed descriptively and verifiably using multiple linear regression tests. Descriptive analysis helps to summarize and describe the characteristics of the data, while multiple linear regression tests allow for the examination of relationships between multiple independent variables and a dependent variable.

3. RESULTS AND DISCUSSION

The research results, based on the assessment criteria, yielded a score of 3,546. The maximum or ideal score, calculated as 4 (maximum score for each criterion) multiplied by 13 (total number of criteria) multiplied by 100 (total possible score), is 5,200. Therefore, the respondent's score for the use of the hospital information system was calculated to be 68.19%. According to the assessment criteria, a percentage score of 68.19% falls within the "good" category. This indicates that the respondent's perception of the hospital information system usage is favourable and reflects a satisfactory level of performance based on the established criteria.

The research findings indicate that 68.19% of patients hold a positive perception regarding the utilization of the Hospital Information System (HMIS) in the Outpatient Department of Soreang Regional Hospital. Patients' favourable attitudes towards HMIS at Soreang District Hospital stem from several key factors. Firstly, most patients commend HMIS for its prompt response time and the completeness, accessibility, and accuracy of the information provided. Additionally, patients appreciate the ease and efficiency with which medical records are managed, alongside HMIS's integration with other applications.

Moreover, patients perceive that HMIS resources at Soreang Hospital adequately support operational activities, ensuring data security and maintaining relevant administration costs in relation to the completeness and speed of information within patient medical records. Furthermore, HMIS at RSUD Soreang is lauded for its accuracy, reliability, and user-friendly interface. While HMIS at RSUD Soreang is generally well-regarded, there remain some areas of concern that warrant attention from the hospital administration. Notably, the absence of barcoding in the registration process poses a potential risk for queues and operational inefficiencies. Addressing this issue and continuously monitoring and improving HMIS functionality will be crucial for ensuring seamless operations and maximizing patient satisfaction at Soreang Regional Hospital.

Based on the next assessment criteria, the waiting time, the research results indicate that the respondent's score for service time utilization is 69.12%. This score was derived by comparing the actual value obtained (1,659) with the maximum or ideal value (2,400), calculated as 4 (maximum score for each criterion) multiplied by 6 (total number of criteria) multiplied by 100 (total possible score). With a percentage score of 69.12%, the respondent's perception of service time utilization falls within the "good" category. This suggests that most respondents view the service time provided at Soreang Regional Hospital favourably, indicating satisfactory performance in terms of efficiency and timeliness. Based on the research findings, it is evident that most patients hold a positive perception regarding the service time variable at Soreang Regional Hospital. Specifically, 69.12% of patients expressed satisfaction with the service time in the Outpatient Department. The service times at Soreang Regional Hospital are praised for their efficiency and punctuality.

The registration process, waiting time, and outpatient examination are notably swift, with each phase taking relatively little time. Specifically, the registration process typically requires less than 10 minutes, while the waiting time is generally less than 60 minutes. Additionally, outpatient examination times are typically completed in less than 15 minutes. These findings indicate that Soreang Regional Hospital has succeeded in optimizing its service time, ensuring that patients experience minimal delays and receive prompt attention during their outpatient visits. Such efficiency contributes to overall patient satisfaction and enhances the hospital's reputation for providing timely and effective healthcare services.

The research results indicate that another factor contributing to a positive perception regarding patient service time in outpatient services at RSUD Soreang is the performance of technicians providing patient services. These technicians demonstrate a disciplined attitude in initiating and concluding services for outpatient care patients. Furthermore, there is a palpable sense of cooperation among various personnel involved in outpatient services, including medical records officers, polyclinic officers, nurses, and doctors. This collaborative atmosphere fosters efficiency and enhances the overall outpatient experience for patients. Moreover, there is a notable awareness among hospital staff regarding the significance of patient service time in outpatient care. This awareness underscores the importance of timely and effective service delivery, which in turn positively impacts the work environment and the quality of services provided by the hospital. Overall, the disciplined performance of technicians, the spirit of cooperation among hospital personnel, and the collective awareness of the importance of patient service time

contribute to a positive outpatient experience at RSUD Soreang. These factors not only improve patient satisfaction but also enhance the efficiency and effectiveness of outpatient services provided by the hospital.

Based on the assessment criteria outlined in Chapter III, the research results indicate that the respondent's score for patient satisfaction is 67.27%. This score was derived by comparing the actual value obtained (3,498) with the maximum or ideal value (5,200), calculated as 4 (maximum score for each criterion) multiplied by 13 (total number of criteria) multiplied by 100 (total possible score). With a percentage score of 67.27%, the respondent's perception of patient satisfaction falls within the "satisfied" category. This suggests that most of the respondent's express satisfaction with their overall experience as patients at Soreang Regional Hospital. However, there may still be room for improvement in certain areas to further enhance patient satisfaction levels. Based on the research findings, it is evident that most patients perceive the patient satisfaction variable as satisfactory. Specifically, 67.27% of patients expressed satisfaction with their experience in the Outpatient Department of Soreang Regional Hospital. Among the 13 statements assessed, the statement with the highest contribution to patient satisfaction was "Service officers at Soreang Regional Hospital are friendly when providing services," with a satisfaction rate of 81.25%. This indicates that the friendly demeanour of service officers significantly influences patient satisfaction levels. The positive interactions and courteous behaviour of hospital staff contribute to a positive overall experience for patients, enhancing their satisfaction with the services provided at Soreang Regional Hospital. These findings underscore the importance of fostering a culture of friendliness and professionalism among hospital staff to continually improve patient satisfaction levels and enhance the quality of care provided at Soreang Regional Hospital.

The multiple linear regression model was used to determine the equation of the Hospital Management Information System (X1) and service time (X2) on the dependent variable, namely patient satisfaction (Y). Data analysis in multiple linear regression calculations using SPSS, obtained the output results of multiple linear regression calculations. The constant value of 14.569 represents the expected value of patient satisfaction (Y) when there is no influence from the independent variables, Hospital Management Information System (X1) and service time (X2). This means that if the values of X1 and X2 are both zero, patient satisfaction would be expected to be 14.569.

The regression coefficient for the Hospital Management Information System variable (X1) is 0.192, and it has a positive value. This indicates that for every one-unit increase in the value of X1 (the Hospital Management Information System), patient satisfaction (Y) is expected to increase by 0.192, assuming all other variables remain constant. Similarly, the regression coefficient for the service time variable (X2) is 0.086, also with a positive value. This suggests that for every one-unit increase in the value of X2 (service time), patient satisfaction (Y) is expected to increase by 0.086, assuming all other variables remain constant. In this study, the hospital information system variable (X1) appears to have a stronger influence on patient satisfaction, as indicated by its higher regression coefficient value of 0.192 compared to the service time variable (X2). Overall, these findings suggest that both the Hospital Management Information System and service time play significant roles in influencing patient satisfaction, with the Hospital Management Information System being the dominant factor in this study.

The coefficient of determination (R-squared, R^2) value of 0.108 indicates that approximately 10.8% of the variation in patient satisfaction (the dependent variable, Y) can be explained by variations in the two independent variables examined in this study, namely the hospital information system (X1) and service time (X2). However, the remaining 89.2% of the variation in patient satisfaction is attributed to other independent variables or factors that were not included or examined in this study. These unaccounted variables may include aspects such as staff attitude, facility cleanliness, communication skills of healthcare providers, and other factors that could influence patient satisfaction but were not specifically analysed in this research. While the hospital information system and service time have been shown to have some impact on patient satisfaction, it is evident that there are additional factors at play that also contribute significantly to patients' overall satisfaction levels. Therefore, further research and analysis may be necessary to identify and understand these additional factors and their respective influences on patient satisfaction in healthcare settings.

To test the joint influence of the hospital information system (X1) and service time (X2) on outpatient satisfaction at Soreang Regional Hospital, the F-test was utilized. The F-test assesses whether all independent variables in the model collectively have a significant impact on the dependent variable. In this context, the null hypothesis (H0) states that the coefficients of all independent variables in the model are equal to zero, indicating no significant influence on the dependent variable (outpatient satisfaction). The alternative hypothesis (H1) asserts that at least one of the independent variables has a non-zero coefficient, indicating a significant influence on the dependent variable. To conduct the F-test, the significance level (alpha) is typically set at 0.05 or 5%. This means that if the p-value associated with the F-statistic is less than 0.05, the null hypothesis is rejected, and it can be concluded that the independent variables jointly have a significant influence on the dependent variable. Therefore, in interpreting the results of the F-test, the researcher would compare the significance level (sig.) obtained from the analysis with the predetermined significance level of 0.05. If sig. is less than 0.05, it indicates that the independent variables (hospital

information system and service time) collectively have a significant influence on outpatient satisfaction at Soreang Regional Hospital. Based on the results of simultaneous hypothesis testing as shown in the table above, the calculated F is 5.893 and Sig. 0.004. Based on the provisions of the hypothesis that H_o is rejected, and H_a is accepted if Sig <0.05, then the hypothesis which states that together the variables of the hospital information system and service time have an influence on patient satisfaction can be accepted. This proves that in this study simultaneously the variables of the hospital information system and service time have an influence on patient satisfaction.

The performance of the Hospital Management Information System in the Outpatient section of Soreang Bandung Regional Hospital has a significant effect on patient satisfaction. The results are positive and significant because most respondents agree that the HMIS system helps improve not only compliance with actual conditions (79.25%), but also various information about patients can be obtained easily (79.25%), reliable and understandable. (78.5%). In addition, the highest percentage of respondents agreed that HIMS RSUD Soreang Bandung guarantees the security of patient data (80.5%). The results of this study explain that patient satisfaction can be achieved with the presence of a HIMS. This system also helps in improving doctor's performance, setting patient shifts, dispensing medicines from pharmacies, written treatment guidelines, accuracy and ease of follow-up on health status, time for collecting medical records and receiving medicines.

The results of testing the hypothesis of the influence of service time on patient satisfaction obtained a regression coefficient in a positive direction and a calculated t value of 1.051 and sig. of 0.296. The significance level is 0.05 or 5%, so the significance value is 0.296 which is greater than the significance level (sig.>0.05). The significance value is greater than (>) 0.05, this indicates that Ho is accepted, and Ha is rejected. This means that partially the service time variable does not have a significant influence on patient satisfaction. Partially, it shows that there is no significant influence of Service Time in the Outpatient Department of Soreang Bandung Regional Hospital on patient satisfaction. This shows that correct and fast service times are supporting factors for the success of the Outpatient Department of Soreang Bandung Regional Hospital in increasing patient satisfaction. The path coefficient for the service time variable is 0.860, indicating that the direct influence of service time on patient satisfaction is positive at 0.6802 = 0.462 or 46.2%. This effect shows that the better the service time, the higher 46.2% of patient satisfaction.

4. CONCLUSIONS

The research findings indicate that 68.19% of patients in the Outpatient Department of Soreang Regional Hospital have a positive perception of using the Hospital Information System (HMIS). This positive perception is derived from various factors related to the patients' experiences with HMIS at Soreang District Hospital. Patients reported that HMIS demonstrates a good response time and provides complete, easily accessible, and fast information. Medical records maintained through HMIS are perceived to accurately reflect the patients' medical situations. Additionally, patients appreciate that HMIS has been integrated with other applications, enhancing its functionality and usability. Furthermore, patients find HMIS resources at Soreang Hospital sufficient for operational activities, including the protection of patient data security. The administration costs associated with HMIS are deemed appropriate in relation to the completeness and speed of information recorded in patient medical records. Overall, these findings suggest that HMIS plays a vital role in enhancing operational efficiency and patient satisfaction at Soreang Regional Hospital. Its integration with other applications, along with its responsiveness, completeness, and security features, contributes to a positive overall perception among patients regarding its usage in the outpatient department.

The research findings reveal that 69.12% of patients in the Outpatient Department of Soreang Regional Hospital hold a positive perception regarding service time. Service times are commended for their efficiency, speed, and punctuality. Specifically, the registration process, waiting time, and outpatient examination are reported to be prompt, with registration taking less than 10 minutes, waiting time less than 60 minutes, and outpatient examination time less than 15 minutes. This indicates that Soreang Regional Hospital has successfully minimized waiting times and streamlined outpatient processes, contributing to a positive patient experience. Moreover, the research results demonstrate that 67.27% of patients express satisfaction with the overall outpatient services at Soreang Regional Hospital. Among the various factors contributing to patient satisfaction, the statement with the highest contribution (82.5%) is "Service officers at Soreang Regional Hospital are friendly when providing services." This highlights the importance of staff attitude and interpersonal interactions in shaping patient perceptions and satisfaction levels. Overall, these findings underscore the hospital's commitment to providing efficient and patient-centred outpatient services. By maintaining short waiting times and fostering a friendly and welcoming environment, Soreang Regional Hospital enhances patient satisfaction and improves the overall quality of care provided to its outpatient population.

The analysis indicates that there is a significant simultaneous influence of both the hospital information system (HMIS) and service time on patient satisfaction in the Outpatient Department of Soreang Regional Hospital. This implies that achieving high levels of patient satisfaction relies on the effective utilization of HMIS along with ensuring timely and efficient service delivery. Furthermore, while there may not be a partial influence of service time alone on patient satisfaction in the Outpatient Department of Soreang Regional Hospital, it is evident that maintaining correct and prompt service times is a crucial factor in enhancing patient satisfaction. The path coefficient for the service time variable is 0.860, indicating a positive direct influence on patient satisfaction at 46.2%. This finding suggests that approximately 46.2% of patient satisfaction can be attributed to the quality and efficiency of service time. In other words, the better the service time provided, the higher the level of patient satisfaction. This underscores the importance of optimizing service delivery processes and minimizing waiting times to enhance overall patient experience and satisfaction levels in the Outpatient Department of Soreang Regional Hospital.

5. REFERENCES

[1] S. N. R. Alismaili, M. Shanmugam, H. Kasim, and P. Magalingam, "Hospital Information System for Motivating Patient Loyalty: A Systematic Literature Review," *Journal of Information Technology Management*, vol. 14. University of Tehran, pp. 235–244, 2022. doi: 10.22059/JITM.2022.84902.

[2] M. Beyer, R. Lenz, and K. A. Kuhn, *Health Information Systems*, vol. 48, no. 1. Jakarta, 2006. doi: 10.1524/itit.2006.48.1.6.

[3] P. D. Christasani, Y. Wijoyo, T. S. Hartayu, and ..., "Implementation of Hospital Information System in Indonesia: A Review," *Systematic Reviews in Pharmacy*, vol. 12, no. 7, pp. 499–503, 2021, [Online]. Available: https://www.sysrevpharm.org/abstract/implementation-of-hospital-information-system-in-indonesia-a-review-82877.html

[4] J. Hutahaean and N. Mulyani, "Inventory Information System for Health Equipment and Medicines Products Using the EOQ (Economic Order Quantity) Method in Pharmacy Installation of RSUD HAMS Web-Based Range," 2020. [Online]. Available: https://iocscience.org/ejournal/index.php/mantik

[5] N. F. Naini, Sugeng Santoso, T. S. Andriani, U. G. Claudia, and Nurfadillah, "The Effect of Product Quality, Service Quality, Customer Satisfaction on Customer Loyalty," *Journal of Consumer Sciences*, vol. 7, no. 1, pp. 34–50, 2022, doi: 10.29244/jcs.7.1.34-50.

[6] M. Engel, A. Brinkman-Stoppelenburg, D. Nieboer, and A. Van Der Heide, "Satisfaction with care of hospitalised patients with advanced cancer in the Netherlands Cancer patients' satisfaction with hospital care."

[7] M. A. Abbasi-Moghaddam, E. Zarei, R. Bagherzadeh, H. Dargahi, and P. Farrokhi, "Evaluation of service quality from patients' viewpoint," *BMC Health Serv Res*, vol. 19, no. 1, Mar. 2019, doi: 10.1186/s12913-019-3998-0.

[8] E. Saha and P. K. Ray, "Modelling and analysis of inventory management systems in healthcare: A review and reflections," *Comput Ind Eng*, vol. 137, Nov. 2019, doi: 10.1016/j.cie.2019.106051.

[9] S. Assauri, *Customer service yang baik landasan pencapaian customer satisfaction*, vol. XXXII. Jakarta: Satisfaction dalam Usahawan, 2003.

[10] S. Assauri, *Strategic Manajement: sustainanle competitive advantages*, Edisi 2. Depok: PT Raja Grafindo Persada, 2017.

[11] M. A. Badri, S. Attia, and A. M. Ustadi, "Healthcare quality and moderators of patient satisfaction: Testing for causality," *Int J Health Care Qual Assur*, vol. 22, no. 4, pp. 382–410, 2009, doi: 10.1108/09526860910964843.

[12] Y. Adula and G. A. Chali, "The Effects of HealthService Delivery on Patient Satisfaction: (Nekemte Public hospital)," *An International Peer-reviewed Journal*, vol. 55, 2019, doi: 10.7176/JMPB.

[13] S. Ali Qalati, W. Li, S. Iqbal, R. Yassir Hussain, L. Wen Yuan, and S. Ali, "Impact of Price on Customer Satisfaction; mediating role of Consumer Buying Behavior in Telecoms Sector mediating role of Consumer Buying Behaviour in Telecom Sector View project International Journal of Research Impact of Price on Customer Satisfaction;," *International Journal of Research Impact of Price on Customer Satisfaction*, vol. 06, no. 04, pp. 150–165, 2019, [Online]. Available: https://journals.pen2print.org/index.php/ijr/

[14] R. Yassir Hussain, A. Shaibu, S. Ali Qalati, L. Wen Yuan, S. Iqbal, and S. Ali, "International Journal of Research Impact of Price on Customer Satisfaction; mediating role of Consumer Buying Behaviour in Telecom Sector," 2019, [Online]. Available: https://www.researchgate.net/publication/332868724

[15]   S. M. Dam and T. C. Dam, "Relationships between Service Quality, Brand Image, Customer Satisfaction, and Customer Loyalty," *Journal of Asian Finance, Economics and Business*, vol. 8, no. 3, pp. 585–593, 2021, doi: 10.13106/jafeb.2021.vol8.no3.0585.

[16]   M. U. Wattoo and S. M. J. Iqbal, "Unhiding Nexus Between Service Quality, Customer Satisfaction, Complaints, and Loyalty in Online Shopping Environment in Pakistan," *Sage Open*, vol. 12, no. 2, 2022, doi: 10.1177/21582440221097920.

[17]   B. Almohaimmeed, "Pillars of customer retention: An empirical study on the influence of customer satisfaction, customer loyalty, customer profitability on customer retention," *Serbian Journal of Management*, vol. 14, no. 2, pp. 421–435, 2019, doi: 10.5937/sjm14-15517.

[18]   K. L. Khoo, "A study of service quality, corporate image, customer satisfaction, revisit intention and word-of-mouth: evidence from the KTV industry," *PSU Research Review*, vol. 6, no. 2, pp. 105–119, 2022, doi: 10.1108/PRR-08-2019-0029.

[19]   J. W. Creswell, *Research Design: Pendekatan Kualitatif, dan Mixed*, no. 2014. Yogyakarta: Pustaka Pelajar, 2014.

[20]   Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D: Cetakan ke-1*. Bandung: CV Alfabeta, 2019.