



The Journal of Humanities, Community Service, and Empowerment

Homepage: <https://jurnal.glowscien.com/index.php/JHCSE>

Vol. I, Issue. 4, October (2024), 125-133

DOI Issue: <https://doi.org/10.58857/JHCSE.2024.v01.i04>

E-ISSN: 3032-7172



Queuing System in the Health Sector in Indonesia

Febbi Regita Cahyani¹⁾, Syamsuddin²⁾, Suryadi Hadi³⁾, Harnida Wahyuni Adda⁴⁾

^{1, 2, 3, 4} Bachelor of Management Study Program, Faculty of Economics and Business, Tadulako University

e-mail: ¹⁾ebiregithacahyani@gmail.com

DOI Article: <https://doi.org/10.58857/JHCSE.2024.v01.i04.p02>

ARTICLE INFO

Historis:

Submit 9 June 2024

Review 21 July 2024

Revision 25 August 2024

Accepted 19 September 2024

Publish 29 October 2024

Keywords: Queue System, FIFO, Health Services, Information Technology, Patient Satisfaction

Corresponding Author:

Febbi Regita Cahyani

email:

nrebiregithacahyani@gmail.com

ABSTRACT

Queuing systems in the Indonesian healthcare sector play a crucial role in delivering efficient and high-quality services to patients. This study aims to analyze various queuing system models implemented in hospitals and other healthcare facilities, with a primary focus on the FIFO (First-In-First-Out) method. In this system, patients who arrive earlier will be served first. Although the FIFO method has been proven effective in increasing efficiency, various challenges affect the performance of the queuing system, including high patient numbers, limited human resources, and inadequate infrastructure. This study also identifies the potential of technology in optimizing the queuing system, such as information technology-based applications that can expedite the registration process and reduce patient waiting times.

During the COVID-19 pandemic, the health sector in Indonesia has been increasingly encouraged to adopt digital technology in queue management, which can improve the quality of health services. This technology can enhance the flow of information to patients and aid in setting queue priorities, particularly for vulnerable groups such as the elderly and pregnant women. Additionally, government policies that support digitalization in the healthcare sector also play a crucial role in overcoming various existing obstacles. By employing a holistic approach that incorporates infrastructure, technology, and human resources, it is anticipated that the queue system in the Indonesian healthcare sector can be significantly improved, offering faster and more efficient services and enhancing patient satisfaction.

INTRODUCTION

A company in the service or manufacturing sector must be able to provide fast and best service according to customer desires to meet their needs.(Nengsih & Yustanti, 2019). Services are the largest and fastest growing economic sector in advanced societies.(Hoang et al., 2023). In

Indonesia, the high economic growth is followed by the growth of the service sector, one of the companies engaged in the service sector is the Hospital service (Alfansi, 2023). The increasing number of hospitals and health service offerings means that the public will be more selective in determining where to seek treatment, so that in order to win the competition, hospitals should improve the existing service system. The importance of optimizing the services provided to the public can be done by knowing the right queuing system to use in health services. The services provided by hospitals to the public include the number of medical personnel, service time for patients (Nengsih & Yustanti, 2019).

Moreover, the global crisis due to the COVID-19 pandemic has created unprecedented health and economic disruptions in many countries (Golinelli et al., 2020). Several countries are experiencing economic instability due to the crisis caused by the COVID-19 pandemic, including Indonesia (Murad et al., 2022). The high cost of health care services has prompted many people, especially the elderly and people with disabilities, to turn to remote health management through computer-assisted technology (Kashani et al., 2021). COVID-19 has become a trigger to embrace digital transformation in its entirety (Golinelli et al., 2020). This digital disruption phenomenon has created a transformational impact in various industries and levels of society.

These changes, which are happening rapidly, are believed to have an impact on service management performance (Sudarmo, 2020). Despite advanced infrastructure and technology, access to medical services is uneven, barriers such as cost, technical support, technical issues, decreased productivity during transition, and concerns about health IT security are barriers for organizations in adopting technology (Hermes et al., 2020). Government service to public services in Indonesia is reflected in the central government's spending policy (Sudarmo, 2020). Research on digital transformation needs to consider an inter-organizational perspective, especially in the context of creating shared value in ecosystems involving many new elements (Hermes et al., 2020; Sudarmo, 2020), especially for patients related to the queuing system.

Queues are a phenomenon that occurs because the need for a service is greater than the number of service providers (Amalia & Cahyati, 2020; Prasad et al., 2019). According to Amalia and Cahyati (2020) queuing or waiting line is very often encountered because we do it when we wait for our turn to receive service, for example queuing to buy train tickets, buying tickets at the cinema, paying tolls, or queuing to cross the road. In general, the object of the queue is not necessarily a person but can also occur with goods, for example raw materials that will be processed into finished goods, data to be processed, or cars in the workshop for maintenance. According to Halfin and Whitt (1981), there are two queue models, namely single-server system and multi-server system. Efficient queue management is essential to improve service quality and customer satisfaction. By understanding the characteristics and dynamics of single-server and multi-server queue systems, organizations can design strategies to optimize service efficiency and resource utilization.

Queues are often experienced in everyday life, analysis of this becomes important and can be explored widely in the field of management science. One of the important queue conditions to observe is the queue system in the hospital. As a health service provider, it is certain that hospitals have their own queue systems that are used to provide optimal service to patients. The queue system in hospitals is generally used in the Outpatient Installation section, where many patients have to wait for their turn, either to register for consultation and examination with a doctor or when they want to get medicine at the pharmacy. This is normal, but being in the queue line for

too long will make patients feel uncomfortable. Limited human resources and health infrastructure require special attention to queue management in order to provide efficient and quality services.

Health service places such as community health centers and hospitals have become waiting places, not just places for health services.(Amalia & Cahyati, 2020). This happens because the waiting time is actually longer than the service itself. People have to queue for a long time to get health services with a waiting time that is not short. In fact, for the standard waiting time itself, the government has set a minimum waiting time for each service. For example, the waiting time for outpatients is the same as 60 minutes or less than 60 minutes. This standard is based on the minimum service standard based on the Ministry of Health Number 129 / Menkes / SK / II / 2008. In addition, it is also important to understand and apply the ISO-9000 quality system such as in the implementation aspect and the management role aspect because it can have an impact on hospital performance (Syamsuddin & Azib, 2008). But in reality, there are quite a few patients who can wait longer than the minimum waiting time as set by the government.

The queuing system in Indonesia reflects the various challenges that need to be overcome to achieve optimal efficiency levels. With rapid population growth and increasing awareness of the importance of health services, the pressure on health facilities to provide fast and quality services is increasing. Previous studies have shown that factors such as patient volume, service capacity, and human resource management play an important role in the operation of the queuing system. Based on the research conducted Rofi'i and Jarihatunningsih (2014) with studies in Indonesia, the services provided are still not in accordance with standards, one of the reasons for the long queues is because the medical personnel are still not balanced with the number of patients served. If the government and the hospital realize that shortening the waiting time is one of the important things in service, there should be a change in the queue system that makes service easier for patients.

Several queue models can be applied such as self-registration for regular patients, updating queue information via smartphone, displaying queue numbers in the waiting room, and also differentiating waiting rooms for each service. Improving the queue model means improving the queue system which of course has an impact on better service for patients. Not only service, when the service is good, patient satisfaction will certainly increase (Amalia & Cahyati, 2020; Rofi'i & Jarihatunningsih, 2014). Moreover, nowadays technology is increasingly sophisticated and has become an integral part of everyday life, so the adoption of technology-based solutions is expected to increase the efficiency of the queuing system (Golinelli et al., 2020; Kashani et al., 2021). Software applications, health information systems, and other technology-based platforms can be catalysts in improving workflow and service quality. At this stage, it is necessary to explore recent changes in queue management, especially considering the use of information and communication technologies. Software applications and technology solutions have become a major focus in efforts to improve the efficiency and responsiveness of queue systems in various health facilities.

In addition, it is important to assess the patient experience in dealing with the queuing system, because patient satisfaction not only reflects the effectiveness of the service but can also provide valuable insights for necessary improvements. The regulatory and government policy aspects will also be explored to understand the framework that governs queue management in the health sector. Changes in regulations or new policies may have a significant impact on the way queuing systems are implemented and run in various health facilities. This study aims to conduct a comprehensive literature review of queuing systems in the Indonesian health sector to provide in-depth insights into the current queuing system and potential future improvements.

RESEARCH METHOD

This study employs a qualitative method, incorporating a literature review approach, to analyze the queuing system in the Indonesian health sector. This literature review aims to collect, evaluate, and compile relevant information from various literature sources, including scientific articles, books, and reports related to the queuing system in hospitals and other health facilities. The qualitative approach enables researchers to gain a deeper understanding of the challenges associated with managing the queuing system and how factors such as information technology, government regulations, and patient experience influence the system. This study focuses on an in-depth analysis of the queuing models used in the Indonesian health sector and the challenges that arise, including limited infrastructure and human resources.

Additionally, this study examines the role of technology in enhancing the efficiency of queuing systems in hospitals and healthcare centers. This literature review identifies and assesses the implementation of technology-based solutions that can improve patient experience and service quality. Drawing on secondary data from previous research and literature reviews, this study offers insights into potential changes and improvements that can be implemented in the future to address challenges in queuing systems within the Indonesian health sector. This method also involves analyzing government policies and regulations that affect queuing systems to understand the legal and operational contexts underlying queue management in health facilities.

RESULTS AND DISCUSSION

The responsiveness of the apparatus in providing services is very necessary to be able to complete the service quickly according to the promised time period with the conditions and capabilities of the service. This situation is related to the reasons and ways of thinking of the tools shown to service users (Pantih et al., 2021), because positive services will encourage community participation in providing services by considering the aspirations, needs and expectations of the community. The queuing system in the health sector plays an important role in providing efficient and quality services to patients. Queuing patterns and waiting times use several queuing patterns, namely FIFO Queue (First In, First Out)–Patients who arrive or register first will be served first. Applying the principle that patients who arrive or register first have higher priority. Priority based on medical conditions–Patients with more serious or urgent medical conditions are given higher priority for service. Application of certain emergency or priority categories in arranging the queue order. Separate queues for each type of service–Queue division based on the type of service needed by the patient. For example, separate queues for outpatient services, laboratory tests, or certain medical procedures. Special queues for vulnerable groups–Special or priority queues are implemented for vulnerable groups, such as the elderly or pregnant women. Improving health services that are more friendly to certain groups.

The results of the application of the FIFO (First in First out) method can run well if the queue order is in accordance with the patient data, those who take the queue earlier receive medical services first. According to research conducted by Hardianti et al. (2023), with the black box testing system can solve functional system problems according to the expected expectations. The FIFO concept can also provide fast service by shortening the service waiting time and providing clear information. For example, if a patient arrives at the same time, then the service is carried out based

on the order in the queue. FIFO is sequential and takes turns but remains on the flow that first enters the queue is served first and so on.

Healthcare services in hospitals often involve queuing processes that can affect patient experience and service efficiency. The effectiveness of queuing systems in hospitals in Jakarta is influenced by various factors, including information technology, human resource management, and operational processes. It is important for hospitals to continuously improve and optimize their queuing systems to improve service efficiency and better meet patient needs. According to Amalia and Cahyati (2020), the appointment system that applies to health services is a single block rule. Patients are served on a “first come, first served” basis. The service pattern is also random following the Poisson distribution. Based on previous research, the general queuing process in health services can be described as follows:

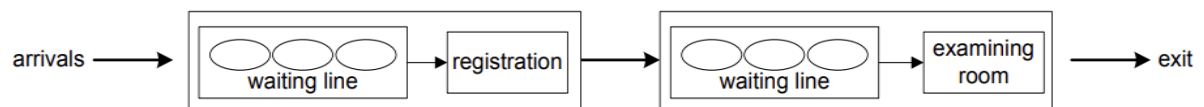


Figure 1. Queuing process in health services

Patients must go through various processes to get outpatient services, one of which is waiting for a call at the registration counter which is inseparable from the queue. In the service, the registration counter is the first service in coordinating the activities of other units starting with patient registration. Patients who will enter the queue must go through several stages. The first stage is that the patient goes to the counter to get a queue number, after which the patient will be called according to the serial number to be served. This greatly affects patients who have previously queued because they have to be willing to wait even longer to get service. When providing services to patients, the phenomenon of queuing cannot be avoided and is often encountered and becomes a problem that must be resolved immediately. The length and duration of the queue makes patients feel uncomfortable, because they think their time is wasted when they queue before being served. Queuing is an activity of waiting for their turn to be served because the arrival of customers and service time are not balanced. The difference between the number of requests for service facilities and the ability of the facilities to serve gives rise to two logical consequences, namely the emergence of queues and the emergence of capacity unemployment (Siswanto, 2007)

Research conducted Rofi'i and Jarihatunningsih (2014) explained that one of the reasons for the long queues is because the medical personnel are still not balanced with the number of patients served. Thus, the number of patients, service capacity, and human resource management play an important role in the operation of the queue system. In general, the queue system in Indonesia can be said to have several types. The first type is patients who are already members, and the other type is patients who are coming for the first time. New members need to pre-register at the information desk by filling out a registration form. After registration, the patient waits for treatment (next server). On the other hand, the medical records officer will search for the patient's medical record file. The time needed to search for medical records is relatively shorter than patients waiting for a doctor. Patients will not go home because they still have other options such as treatment support, cashiers, or pharmacies.

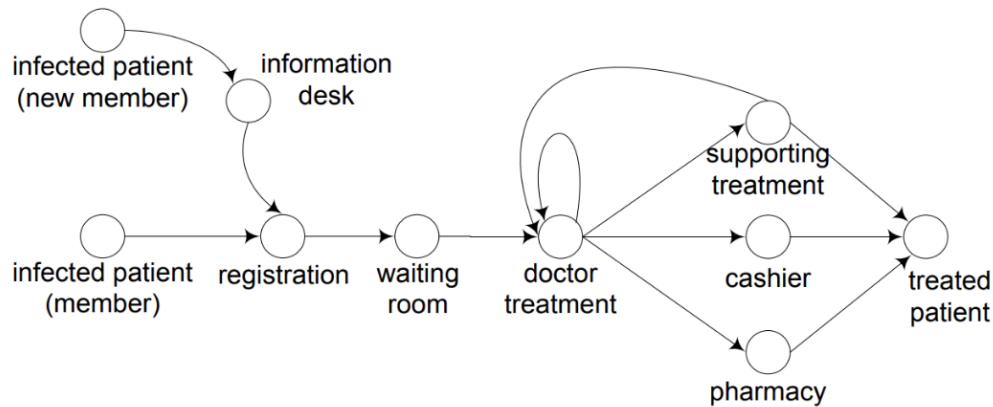


Figure 2. Health Service Flow/Process

The queue system in the health sector in Indonesia involves several aspects that include organization, technology, waiting time, and patient experience. Registration and Registration Patients are usually asked to register or register when they arrive at a health facility. The registration process can be done directly at the registration counter or through an online registration application, depending on the policies and facilities available. Determination of priority and category of service based on the type of service needed, patients can be placed in certain categories to determine the priority order of service. Emergency services, for example, will have a higher priority than regular outpatient services.

Several health facilities in Indonesia have also adopted technology in queue management, but it is not yet effective (Rofi'i & Jarihatunningsih, 2014). Nevertheless, some efforts have been made to reduce waiting times, including optimizing the registration process and increasing service efficiency. Their queue status is an example of the use of technology in this process. Some inhibiting factors in the queue system in the Indonesian health sector involve high patient volumes, limited human resources, and inadequate infrastructure. These factors can affect the effectiveness of the queue system and increase patient waiting times. Not only service, when the service is good, patient satisfaction will certainly increase (Amalia & Cahyati, 2020; Rofi'i & Jarihatunningsih, 2014).

Moreover, nowadays technology is increasingly sophisticated and has become an integral part of everyday life, so the adoption of technology-based solutions is expected to increase the efficiency of the queuing system (Golinelli et al., 2020; Kashani et al., 2021). Software applications, health information systems, and other technology-based platforms can be catalysts in improving workflow and service quality. At this stage, it is necessary to explore recent changes in queue management, especially considering the use of information and communication technologies. Software applications and technology solutions have become a major focus in efforts to improve the efficiency and responsiveness of queue systems in various health facilities. The use of technology in queue management can be done online by involving a number of steps and criteria to assess the extent to which the technology provides the desired benefits.

Adaptation to digital technology is a process that aims to improve an entity by causing significant changes to its properties through a combination of information, computing, communication and connectivity technologies (Golinelli et al., 2020; Kashani et al., 2021). The application of computing technologies that mimic human capabilities, such as thinking, deep learning, adaptation, engagement, and sensory understanding, is also part of digital disruption

(Secinaro et al., 2021). Healthcare, as a major industry, has undergone significant digital transformation over the years (Kashani et al., 2021; Kraus et al., 2021). Health services include complex and pluralistic medical services with ongoing interactions between individuals and organizations (Hermes et al., 2020). The use of digital tools to meet acute needs due to the pandemic, such as patient tracking apps and remote triage services, is an integral part of the current transformation.

Combining the FIFO method or concept with technology adoption, this study assumes that this step can solve the queue problem. In principle, the queue is not prioritized. The queue model used is easy to implement, so that patients who arrive earlier get medical services first, so that patients who are queuing can be orderly without having to fight to be prioritized. After arranging the queue order, the Average Waiting Time (AWT) or average waiting time will be calculated to find out the estimated patient waiting time. Adoption of technology can also utilize the presence of smartphones to make it easier for service providers to provide information about queue numbers to those in queue, which can later be a source of information as a consideration for decision making to improve services. Increasing the effectiveness of the queue system in health services in Indonesia certainly requires a holistic approach that involves improving facility infrastructure, using sophisticated information technology, and increasing human resource capacity. Thus, it is important for local governments and related agencies to provide sufficient support and resources to improve access and quality of public health services.

CONCLUSION

The queuing system in the health sector plays a crucial role in providing efficient and quality services to patients. This study revealed that queuing patterns and waiting times have various approaches, including the FIFO (First In, First Out) concept. The implementation of FIFO can improve the effectiveness of the queuing system by ensuring that patients who have queued earlier receive faster service. However, several challenges still occur in the effectiveness of the queuing system in Indonesia, such as high patient volumes, limited human resources, and inadequate infrastructure. These factors can affect patient waiting times and overall service quality. However, research shows that efforts to adopt technology in queue management can be an effective solution. Although not yet fully effective, the adoption of technology has provided steps to reduce waiting times and improve service efficiency.

The application of technology in the queuing system in the health sector is also part of the adaptation to the ongoing digital transformation. The integration of the FIFO concept with the adoption of technology offers the potential to overcome challenges in the queuing system, by providing faster and more efficient services to patients. In addition, technology can also facilitate communication between service providers and patients, improving the overall patient experience. In the context of health services in Indonesia, it is important to adopt a holistic approach that involves improving facility infrastructure, using sophisticated information technology, and increasing human resource capacity to improve the effectiveness of the queuing system in health services. Support from local governments and related agencies is also key in optimizing access and quality of health services for the community. Thus, the queuing system in the health sector requires a comprehensive and innovative approach to improve the efficiency and quality of health services in Indonesia.

REFERENCES

- Abdullah, A., & Burhanuddin, S. A. (2023). Strategi Kepemimpinan Kepala Sekolah Dalam Menciptakan Good Governance Di Sekolah. *Jurnal Educatio Fkip Unma*, 9(1), 413–418. <https://doi.org/10.31949/educatio.v9i1.4538>
- A'yun, N. Q. (2022). Pengaruh Kepemimpinan Kepala Sekolah Terhadap Kinerja Guru Di Sekolah. *Journal of Islamic Education and Innovation*, 86–96. <https://doi.org/10.26555/jiei.v3i2.6607>
- Devi, I. A. G. D. P., & Wiyasa, I. K. N. (2021). Kontribusi Kepemimpinan Kepala Sekolah Dan Lingkungan Kerja Terhadap Kinerja Guru. *Jurnal Ilmiah Pendidikan Profesi Guru*, 4(2), 278–287. <https://doi.org/10.23887/jippg.v4i2.32814>
- Fauzi, H. N. (2021). Kinerja Kepala Sekolah Sebagai Leader Dalam Manajemen Mutu Terpadu Di SD Muhammadiyah Pendowoharjo. *Journal of Islamic Education and Innovation*, 1(2), 29. <https://doi.org/10.26555/jiei.v1i2.905>
- Hakim, S., Muhammad, M., & Saparudin, S. (2024). Implementasi Kompetensi Manajerial Dan Supervisi Kepala Sekolah Dalam Meningkatkan Kinerja Guru. *Jurnal Pendidikan Riset Dan Konseptual*, 8(3), 470. https://doi.org/10.28926/riset_konseptual.v8i3.1010
- Hanim, Z., Sari, D. S., & Soe'oed, R. (2020). Kebijakan Kepemimpinan Kepala Sekolah Dalam Meningkatkan Efektivitas Kinerja Guru. *Jurnal Manajemen Pendidikan Jurnal Ilmiah Administrasi Manajemen Dan Kepemimpinan Pendidikan*, 2(1), 43–60. <https://doi.org/10.21831/jump.v2i1.30672>
- Herlambang, G. (2023). Manajemen Kepala Sekolah Dalam Meningkatkan Kinerja Pendidikan. *Jurnal Multidisiplin Indonesia*, 2(7), 1546–1553. <https://doi.org/10.58344/jmi.v2i7.312>
- Herman, H. (2020). Perilaku Komunikasi Kepala Sekolah Dalam Peningkatan Kinerja Guru. *Idarah (Jurnal Pendidikan Dan Kependidikan)*, 4(1), 59–72. <https://doi.org/10.47766/idarah.v4i1.837>
- Husaini, R. N., & Utama, S. (2021). Manajemen Sumber Daya Manusia Dalam Instansi Pendidikan. *Didaktis Jurnal Pendidikan Dan Ilmu Pengetahuan*, 21(1). <https://doi.org/10.30651/didaktis.v21i1.6649>
- Ihsan, M., & Soleha, L. K. (2024). Analisis Gaya Kepemimpinan Kepala Sekolah Dan Motivasi Dalam Meningkatkan Kinerja Guru MTs Ar Ridho Di Kabupaten Bandung Barat. *Jurnal Global Ilmiah*, 2(1), 852–863. <https://doi.org/10.55324/jgi.v2i1.124>
- Jatmika, P. P. (2023). Penilaian Kinerja Kepala Sekolah Di SMK Negeri 1 Sukapura Probolinggo. *Edukasia Jurnal Pendidikan*, 10(2), 63–72. <https://doi.org/10.35334/eduborneo.v10i2.4954>
- Kollo, N., Pawartani, T., Maisyaroh, M., & Kusumaningrum, S. R. (2024). Upaya Kepala Sekolah Meningkatkan Motivasi Dan Kinerja Guru Di Sekolah Dasar. *Jiip - Jurnal Ilmiah Ilmu Pendidikan*, 7(3), 2208–2214. <https://doi.org/10.54371/jiip.v7i3.4172>
- Mahzum, M., Angraini, Y., & Medina, P. (2022). Peranan Kepala Sekolah Dalam Upaya Peningkatan Mutu Kualitas Pendidikan Dan Peserta Didik. *Jurnal Pti (Pendidikan Dan Teknologi Informasi) Fakultas Keguruan Ilmu Pendidikan Universita Putra Indonesia Yptk Padang*, 37–44. <https://doi.org/10.35134/jpti.v9i1.109>
- Nuraini, N. (2022). Pengaruh Kompetensi Manajerial Kepala Sekolah Dan Iklim Kerja Terhadap Kinerja Guru Di SMAN 1 Leuwisadeng. *Jurnal Pendidikan*, 31(2), 187–194. <https://doi.org/10.32585/jp.v31i2.2563>
- Pahira, S. H., & Rinaldy, R. (2023). Pentingnya Manajemen Sumber Daya Manusia (MSDM) Dalam Meningkatkan Kinerja Organisasi. *Comserva Jurnal Penelitian Dan Pengabdian Masyarakat*, 3(03), 810–817. <https://doi.org/10.59141/comserva.v3i03.882>
- Patras, Y. E., Iqbal, A., Papat, P., & Rahman, Y. (2019). Meningkatkan Kualitas Pendidikan Melalui Kebijakan Manajemen Berbasis Sekolah Dan Tantangannya. *Jurnal Manajemen Pendidikan*, 7(2), 800–807. <https://doi.org/10.33751/jmp.v7i2.1329>

- Priyatna, M. (2017). Manajemen Pengembangan SDM Pada Lembaga Pendidikan Islam. *Edukasi Islami Jurnal Pendidikan Islam*, 5(09), 21. <https://doi.org/10.30868/ei.v5i09.87>
- Putri, A., Soemantri, R., & Soenaria, S. R. (2022). Pengaruh Penganggaran Partisipatif Dan Gaya Kepemimpinan Terhadap Kinerja Manajerial. *Jurnal Cakrawala Pendas*, 8(3), 906–914. <https://doi.org/10.31949/jcp.v8i3.2754>
- Rahayu, R. N., Muslihin, H. Y., Sianturi, H. R., & Nurlaela, N. (2023). Manajemen Kepemimpinan Kepala Sekolah Perempuan Dalam Meningkatkan Mutu Tenaga Pendidik. *Journal of Education Action Research*, 7(3), 423–428. <https://doi.org/10.23887/jear.v7i3.67089>
- Sawaluddin, F. R., & Rustandi, R. (2020). Manajemen Sumber Daya Manusia Lembaga Pendidikan Islam Di MTs Persis 3 Pameungpeuk. *Tadbir Jurnal Manajemen Dakwah*, 5(4), 375–396. <https://doi.org/10.15575/tadbir.v5i4.2306>
- Solehudin, D. (2021). Kompetensi Manajerial Kepala Sekolah Dalam Meningkatkan Kinerja Guru Pendidikan Jasmani Olah Raga Dan Kesehatan. *Jurnal Pendidikan Indonesia*, 2(4), 608–624. <https://doi.org/10.36418/japendi.v2i4.152>
- Supartilah, S., & Pardimin, P. (2021). Peran Kepala Sekolah Di Era Revolusi Industri 4.0 Dalam Meningkatkan Mutu Pendidikan. *Media Manajemen Pendidikan*, 4(1), 138–149. <https://doi.org/10.30738/mmp.v4i1.9892>
- Wakini, W., Yanti, E., Demina, D., & Marsidin, S. (2021). Analisis Kemampuan Komunikasi Kepala Sekolah Terhadap Peningkatan Kinerja Guru. *Edusaintek Jurnal Pendidikan Sains Dan Teknologi*, 8(1), 1–10. <https://doi.org/10.47668/edusaintek.v8i1.152>
- Wulandami, T., Nazaruddin, N., & Situmorang, S. H. (2023). Penerapan Manajemen Sumber Daya Manusia Berbasis Syariah Dalam Meningkatkan Kinerja Karyawan. *Jimak*, 2(2), 35–42. <https://doi.org/10.55606/jimak.v2i2.1437>
- Yustinus, Y. (2023). Strategik Kepala Sekolah Dalam Peningkatan Mutu Pendidikan Berbasis Kurikulum Merdeka. *Jurnal Ilmu Manajemen Dan Pendidikan (Jimpian)*, 3, 11–24. <https://doi.org/10.30872/jimpian.v3ise.2902>