



Assessment and Accomplish Dr. Dummy Outpatient Ambulatory Using ChatBots

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ARTICLE INFO ABSTRACT

Convenient access to medical facilities is always necessary to improve the quality of hospital services and the overall health status of the Indian population. Using an online registration service system is one method. The current literature assessment's objective is to look at some of the issues that arise when medical professionals have no ability to deliver healthcare services. The process involves reviewing a number of articles about foreign and websites for licencing in India in 2015. However, Dr. Dummy medical professional services will not begin operating in India until 2023. Journals in the health sector are the ones that are searched for Using Google Scholar as well as and ResearchGate; 22 journals that match the theme are found after multiple assessments and reviews; the use of an online virtual doctor service system can shorten patient wait times for registration before seeing a doctor; many Indian hospitals have implemented Dr. Dummy and services for registration via the internet, although there nevertheless remain a lot of challenges.

This problem can arise both in the planning stage and in the service implementation stage. Some examples of this include a patient who is unable to use a mobile, a lack of human resources, and incomplete patient information on the online registration system. It is anticipated that hospitals implementing online-based mock doctor registration services would benefit from this literature analysis by comprehending more fully the elements that might pose hurdles to utilising internet-based registration programmes and being more ready to safeguard against them.

Keywords: Patient registration, systems that are online, medical care evaluation, and registration

INTRODUCTION

When we have a long-term health issue and we have a preference for any doctor. However, in some cases, if the physician is not physically present, the patient is unable to appear in the outpatient department (OPD), which acts as the initial point of contact for the patient and hospital staff. When doctor are not present in the OPD. A doctor establishes a virtual platform where patients may take recommended medications based on their symptoms. The medications are readily available at any pharmacy.

The medication is suggested based on the patient's past medical history as well as their current state of health. Both the distant patient and the remote doctor benefit from this Dr. Dummy's assistance. A mock doctor has been recommended for patients who are unable to visit the OPD during the designated time because they live further away from the doctor. And when a doctor is present, they may check the medication based on the patient's symptoms. The Article 21 of the Indian Constitution guarantees everyone the right to life and personal freedom. Everyone has the right to health services, and this is a reality that must be acknowledged in order to enhance Indians' overall health. One of the facilities for providing customised medical care the hospital is one of the medical resources required to assist in the execution of initiatives pertaining to public health. In medical Facilities or healthcare centres are frequently experiencing issues with service queues. Service queues frequently form at registration counters for a variety of reasons, such as an imbalance in the number of patients registered with service officers, which prevents patients from being served for registration right away. In response to the Outpatient Performance Assessment results, over an hour was the average wait time for a patient.

Checkup by a healthcare provider, and if any negative outcomes follow, the patient must wait to the next appointment. Meanwhile, the District Hospital polyclinic's outpatient investigation revealed that the waiting

period for services was still not running well and was not ideal.

For outpatients, a minimum waiting duration of sixty minutes has been established. In order for the time that the Department of Gesundheit (Indian Republic's Secretary of Health) determined to be greater than the time that was recorded from the data above. According to study done at Singapore's Specialist Outpatient Clinics, people must wait anywhere from five to ninety-seven minutes to register for medical treatments. Meanwhile, research conducted in China's public hospitals indicates that patients who would be receiving care or treatment there frequently complain about queuing. Some patients must wait in queue all night at the registration desk in order to obtain treatment or medicine the following day. The time to wait is now.

In the queuing system, the waiting time serves as a signal. A variety of factors, including the volume of patients registering and the amount of service professionals available, might impact the length of time patients must wait to be serviced by officers at the health service counter. In addition, patient lines were inevitable due to the dearth of physicians offering their services at the time. Additionally, even though we are aware that the majority of Indonesians are BPJS users, there is a gap about the quantity of client visits and all doctors may get from BPJS participants. The duration of registration may also be influenced by the usage of manual medical record services.

Patients must still physically register with the hospital by queuing up determined by their inaugural sitting at a time to receive a number in the queue. Once in line, they will then be summoned in accordance with their queue number to make an appointment with the official website. The use of this technology may result in increased wait times for patients and longer lines. The most common accumulation of lines is seen among BPJS participating patients, some of whom even wait for hospital staff to open the queue collection counters. A virtual platform for services involving registration is accessible you to avoid line-ups and shorten the time people must wait to register for medical care from doctors. Online signup with research showing that patients who register directly at the Bandung Islamic Hospital wait longer than those who use the SMS / telephone system service, at Xijing Hospital China, a website-based registration system may successfully cut down on patient wait times and boost comfort with the signing up procedure.

Patients may complete the registration process online without having to visit the hospital in person thanks to the online system. However, with the use of distant technological resources, such as the phone, SMS (Short Messaging Service), WEB, apps, or WhatsApp. Although many hospitals now use online enrollment amenities, there are still numerous barriers to these systems, including the lack of officer-provided socialisation, which leads patients to prefer manual or button registration, and the manual or The convenient authorization manipulate, whether automated or button, adheres to Provincial General Hospital CEO Dr. Loekmono Hadi Kudus's guidelines. In addition to patients whose elderly relatives would rather register manually and do not own a phone or mobile number, Oftentimes, a glitch system appears during surfing online.

This literature review aims to identify potential barriers to the putting electronic registration into practice systems. In addition, it can serve as a useful example for hospitals that have already implemented online registration systems or those that plan to do so in order to better prepare them for future registration services should steer clear of and address these impediment factors. With this background in mind, the query concerning how to design a system for registering for operations in order to overcome common implementation roadblocks emerges.

METHODS

This article review was produced by scanning journals with Google Scholar and Research Gate. And the approach used in this article is when a patient has an urgent need for a doctor but the doctor is not available or the patient is unable to see a doctor due to a health issue or is out of town or cannot make an appointment. In this instance, the physician transforms it into a fictitious or imaginary doctor, sometimes known as Dr. Dummy Doctor. The artificial intelligence(AI) chatbot architecture of a pretend doctor that assists patients in providing prompt answers. In order to give patients prompt and precise AI-generated responses, it searches websites, help centres, and other approved resources. Additionally, the patient bases their questioning on their own symptoms. Additionally, the chatbot provides recommendations for tests and medications based on the symptoms. Additionally, pharmacies should have easy access to the prescription medication.

Questionnaires with checkboxes and yes/no options are used as prescriptions. Additionally, after the patient provides a response, the questions start to automatically create.

The steps for figuring out the issues are provided by this technique. Additionally, the patient completes several tests through the portal. It's free hand for physicians aside from the chatbot. The patient can be contacted immediately by the doctor via phone, message, or any other means they choose if they would need a response at any point in time. A solitary physician or a group of physicians might use this framework, which functions as a virtual physician making a choice on patients' behalf.

The author only found a few journals that are appropriate due to the rapid growth of worldwide health services, thus the publication year selected is a decade earlier even though the journal publication year restriction was set at 5 years in the past. The journal serves as being searched to works in the medical field. There were a lot of journals found in this instance, 18,334 journals total. By separating the results with the keyword "hospital," 8,193 journals were found. 1,028 journals were found when searching within the part of the health care facility reporting agency.

After examining the journals, the author selected two decades journals that addressed the subject she was searching for: here nevertheless remain excessively numerous journals for healthcare registration firms that use fictitious physicians. Subsequently, journals are once more searched using the term "hospital registration companies with a remote system," and 392 journals are discovered. This is due to the fact that the online medical infrastructure is maturing, a number of international journals are investigating online doctor tools and apps, and the framework evokes patients of their control time frames. However, since this goes against the author's rating aims' theme, the papers are overlooked.

RESULTS

Interventions using "dummy doctors" are mostly limited to patients over 65 as they already have a hospital medical record. Applicants often register one day in advance of the examination day if they choose to do so online. Furthermore, there is no daily cap on the number of patients who can take advantage of online examinations, and it is accessible 24/7. The response time of the service might be slowed down by frequent issues with an error computer system.

There are two types of limitations or obstacles that might arise while registering online: those that arise during the service planning phase and those that arise throughout the service process. Regulatory obstacles via an individual whom lacks utilisation of internet resources or provide their identity and other information required for registration through the internet are a bottleneck during preparation. When we launch of electronics registration, infrastructure and facilities were still not up to par. Preparing new hires:

In addition to needed the technology officers and operator officers, who manage electronic registration; this workers must comprehend the responsibilities assigned to them, possess relevant experience, and have a degree that is in line with their specific field of expertise.

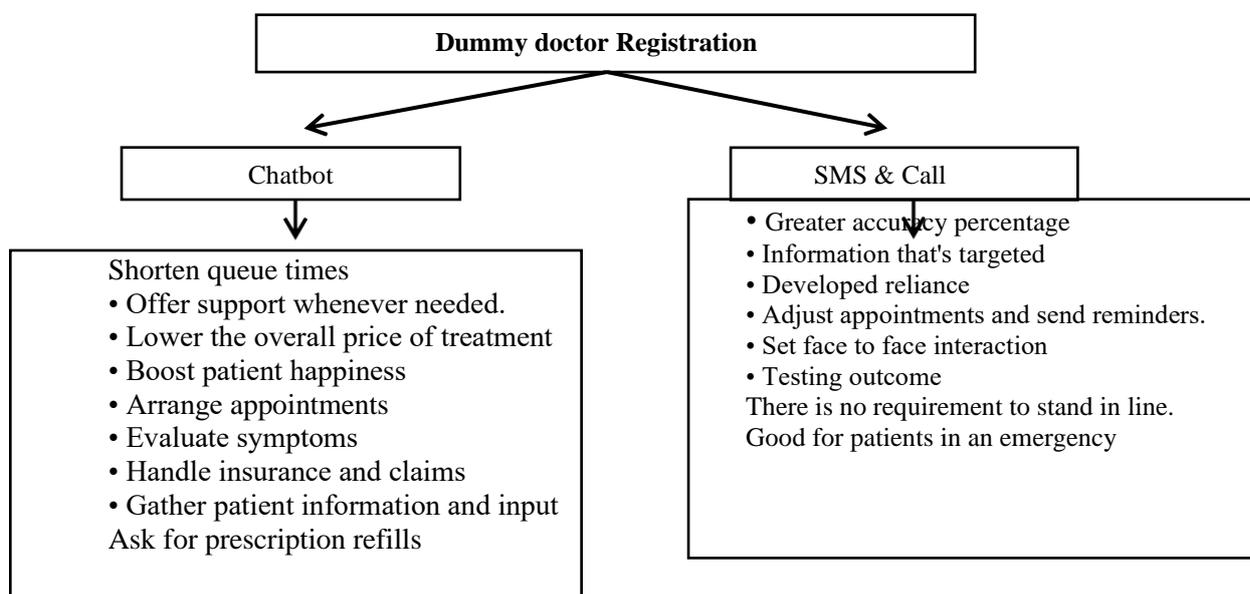
All staff members must be trained on the proper usage.

Additionally, the facility does not show gratitude to staff members who have invented online registration processes or to the officers who oversee them, which makes staff members bored and discourages those who are coming up with new ideas. Whilst there are a number of reasons for the barriers encountered throughout the service process, one of the main ones is that, according to research, patients still prefer manual registration, which involves standing in queue at the registration counter, because staff do not socialise with them. Patients with elderly parents who prefer to get there early in the morning to physically register, do not own smartphones or Android devices, and do not comprehend the use of technology in general.

Additionally, throughout the online registration procedure, an error system frequently exists, making it such that the promptness of responding to tardy obstructs the efficient operation of online registration services. Research indicates that there aren't enough employee resources to handle online registration for officers. Due to the fact that medical record officers have to handle two jobs since online registration operators are removed from them, this constraint has an impact on the operation of the medical record unit.

Officers and human resources are absent from the secure online registration area inadequate infrastructure and facilities for handling ambulatory registration information systems. Due to the restricted number of registration patients, patients and overlords must compete each day to receive an amount of space for examinations.

Table 1. categories of Dummy Doctor



Individuals who registered online took an average of 33.76 minutes to receive medical attention from a doctor, compared to 53.56 minutes for those who enrolled directly. It is evident from this lengthy delay that registering electronically requires less time than direct registration. It is in accordance with the studies undertaken. As much as 16.9% of the total ambulatory enrollment participants used immediate registered and 83.1% of those receiving care opted for web consultation. Patients who choose for online registration are likely to find it easier to register online and more efficient in terms of cutting down on waiting times compared to in-person certification.

It took an average of 33.76 minutes for those who registered online to see a doctor, whereas it took 53.56 minutes for those who enrolled in person. This long wait clearly shows that enrolling online takes less time than registering in person. It is consistent with the research that has been done. A total of 16.9% of participants in ambulatory enrollment selected instant registration, while 83.1% of patients chose online consultation. When compared to in-person certification, patients who pick for secure online registration are most probably discover it to be simpler and more successful in cutting down on lines.

Of the 1594 inpatients who enrolled for treatment online over the course of a month, 28% and 72% of patients, respectively, opted to utilise WhatsApp and SMS for registration. Because using internet therapy is more convenient than visiting a hospital.

DISCUSSION

As demonstrated by the aforementioned findings, virtual OPD outperforms genuine OPD. This is because of how well the services provided at the online counter work; patients who register for treatment there are limited to those who have previously been seen by the doctor and elderly individuals who visit the hospital only in the event of more serious conditions.

It takes longer to produce a medical record, run a lab test, and wait for test results when a patient arrives at the hospital with a genuine OPD; but, with a dummy doctor, gathering the necessary paperwork and data should be simple. A hospital's workload would grow if it only has one operator for its online services. The reason for this it means that in the event that a great deal of consumers register and there is only one server, the system would be overwhelmed and eventually give up due to the sheer amount of incoming calls and SMS messages. Patients are therefore kept waiting for replies or in queue to receive calls as a result of the system slowing down. To prevent system overloads and delays, hospitals should monitor the ratio of patients registering to the number of servers and operators required. Numerous media formats are utilised during online enrolment; nevertheless, the results indicate that there is a notable difference in the way that SMS and WhatsApp are utilised, with more patients choosing to use the former over the latter. This is due to the truth that patients who register for outpatient services do not yet have cellphones with the WhatsApp app loaded, and an increasing number of elderly patients are unable to use smartphones.

Furthermore, the online registration process for outpatient care through WhatsApp and SMS differs. Specifically, when registering through WhatsApp, you need to snap a picture of the healthcare card, an invitation or custody warrant, your BPJS card (the card that represents the Social Security Administration), and your KTP (identity card). There are several potential roadblocks in the online registration service process. These roadblocks fall into two categories: organising and registration-related.

In order to ensure that the online registration process runs well, a number of prerequisites must be put into place prior to the on the internet enrollment design phase. Servers and registration officers from the hospital ought to be on hand in adequate amounts. Instead of utilising outdated or sluggish computers or internet networks, technology such as cellphones or smartphones, internet networks, and computers in good working order should be used in large enough quantities. It is also necessary for all hospital employees to get along with one another and comprehend the process and flow of online registration. For the purpose of online registration, Additionally, the patient or caretaker has to own an Android phone or other mobile device.

In the meanwhile, the hospital must thoroughly, accurately, and concisely inform all patients or carers on the process and flow of electronic registration so that their caretaker or patients are informed truly comprehends. To ensure that there are no roadblocks during the servicing process, the infrastructure is also required to undergo routine inspections. All staff members are required to follow hospital-made SOPs and be disciplined when providing services.

The aforementioned tasks must all be completed in order for the online registration services application process to go smoothly. In addition, the team and online registration service officers need to be aware of potential roadblocks so that it is reasonable to assume that obstacles will arise at the entire registration procedure confront any minimal. This investigation is not the same as that done by. Humans and the system are the two elements or hurdles that the online registration system faces. Human elements, including clients, staff members, and providers of services, create hurdles that are driven by human objectives.

Someone else may encounter difficulties registering online if they are unable to enter the required data or if they do not own a smartphone or other mobile device. Service staff who are not familiar with the online

registration process may also be unable to assist patients registering online if they use a manual operator whose staff members are unmotivated or inattentive in responding to the clients communication.

Making the patient wait a long time for a response from registration; this may cause the patient to become dissatisfied with the electronic registration procedure and service impaired. The electronic registration service procedure may be slowed down by the lack of technicians or experts in the event that a problem arises with the WEB system or application and one must wait for an outside specialist. While faults on the Web or application are one of the system's barriers, poor internet connections or mobile signals from patients or registration officers can also cause delays in answers, which can impede the online registration process.

While the issues at hand are somewhat similar in this instance, each study falls into a different category based on the research being conducted. As a result, these restricting factors must be taken into account in order to ensure a seamless online registration process and the avoidance of lengthy wait times for patients to register in order to receive healthcare services. Out of the 22 reviewed papers, the most commonly reported barrier was the difficulty hospitals without standard operating procedures (SOPs) faced in providing online registration services. The SOP (Standard Operating process), which is a reference-based regulatory system or process, is required for every service provided in a hospital, hence this is completely improper. In the absence of a standard operating procedure, the service officer is free to operate as they see fit and if that occurs, it may lead to issues later on. For this reason, the SOP needs to be created before a service is implemented so that the officer can follow the protocol.

Sixty-three percent of journals listed the client's inability to utilise a mobile phone or lack of a phone number as their second difficulty. Since cellphones and smartphones are relatively new technologies, it is understandable that some older patients find them difficult to operate. If the registration is based on an application or Whatsapp, in this instance, the patient's guardian can help with the registration process by using a mobile or smartphone.

The third hurdle, which is reported to occur as much as 51 of the time, is the quantity of patients enrolling in an overlord. There are several reasons why certain patients are never empty, including an uneven staff-to-patient ratio, which results in an accumulation of those in the socket due to a lot of patients and insufficient staff login, a shortage of doctors to handle the high volume of patients registering, and inadequate waiting room facilities that prevent multiple patients from being served at once, all contribute to the accumulation of long lines. Additionally, the sheer number of patients who need medical care is another factor.

Patients' subsequent visits may be impacted by prolonged wait times and a lack of satisfaction with the quality of hospital services resulting from excessive queue accumulation. Therefore, the hospital should improve its management of available rooms and staffing levels to prevent future queue builds.

CONCLUSION

The hospital must always focus on the quality of its services in order to give the community the finest care possible. There are two types of difficulties that need to be taken into account while offering internet-based registration services: those that arise during the planning stage and those that arise during the internet-based registration service itself. When enrolling online, patients or their guardians should be more diligent and ready with the necessary paperwork. Older patients who are unable to use cell phones should have their guardians register them as well. Hospitals that are beginning to employ electronic enrollment should, however, take their time with the roll out process since there are several prerequisites that must be met before launching an online registry services, such as appropriate and plentiful computers and telephones, printers, quick and stable internet connections, and specialised online registration services. Clearly defined SOPs and officers with training appropriate to their jobs are also necessary to ensure that police are operating within the proper bounds. It is imperative that the aforementioned factors be taken into account in order to provide a seamless and efficient online registration procedure. In order to address any issues that may arise with the online registration procedure, hospitals must also routinely assess and monitor it. The author would like to suggest some further study directions based on the examination of this article's results, specifically to look at the advantages, disadvantages, and hurdles of mediums used for signing up web, specifically the use of the WEB, programmes, SMS, phone, and Whatsapp, or any combination of these.

REFERENCES

1. Aanestad, Margunn and Vassilakopoulou, P. (2019). Innovation Readiness in Healthcare Information Infrastructures. *Scandinavian Conference on Health Informatics, 17th*, 61–66.
2. Snyder, R. A., & Fields, W. L. (2006). Measuring hospital readiness for information technology (IT) innovation: A multisite study of the Organizational Information Technology Innovation Readiness Scale. *Journal of Nursing Measurement, 14*(1), 45–55. <https://doi.org/10.1891/jnum.14.1.45>
3. Menteri Kesehatan RI. (2011). *PERMENKES Nomor 1171 tahun 2011 tentang Sistem Informasi Rumah Sakit*. Diunduh pada 1 April 2020 dari <https://manajemenrumahsakit.net/wp-content/uploads/2012/09/bn378-2011.pdf>

4. Menteri Kesehatan RI. (2008). *PERMENKES Nomor 129 Tahun 2008 Tentang Standar Pelayanan Minimal Rumah Sakit*. Diunduh pada 15 April 2020 <http://manajemenrumahsakit.net/wp-content/uploads/2012/08/PMK-No-129-tahun-2008-tengan-SPM-RS-lengkap.pdf>
5. Sukatmi, & Ristani, N. (2017). SISTEM APLIKASI PENGAMBILAN NOMOR ANTRIAN BERBASIS ANDROID PADA RUMAH SAKIT IMANUEL BANDAR LAMPUNG. *Jurnal Sistem Informasi Dan Komputer*, 5(1).
7. Eka Puspita. (2018). *EVALUASI PENERAPAN PENDAFTARAN ONLINE DI RUMAH SAKIT MATA SOLO*. UNIVERSITAS MUHAMMADIYAH SURAKARTA.
8. Yu, W., Yu, X., Hu, H., Duan, G., Liu, Z., & Wang, Y. (2013). Use of Hospital Appointment Registration Systems in China: A Survey Study. *Global Journal of Health Science*, 5(5).
9. White, D. L., Froehle, C. M., & Klassen, K. J. (2011). The effect of integrated scheduling and capacity policies on clinical efficiency. *Production and Operations Management Society*, 20(3).
10. Rilotomo, P. Y., & Hardjo, K. (2018). *Pelaksanaan Pelayanan Pendaftaran Pasien Rawat Jalan Di Rumah Sakit Umum Daerah Prambanan*. UNIVERSITAS JENDERAL ACHMAD YANI YOGYAKARTA.
11. Susanti, Y., Widiyastuti, E., Dewi, Y., Reza, E., & Hanifah, I. (2015). Kinerja Sistem Antrian dan Simulasi Model Antrian pada Appointment Registertration System di Instalasi Rawat Jalan Rumah Sakit Al Islam Bandung. *Seminar Nasional Penelitian Dan Pengabdian Pada Masyarakat*, 1(1), 263–268.
12. Zhang, M., Zhang, C., Sun, Q., Cai, Q., Yang, H., & Zhang, Y. (2014). Questionnaire survey about use of an online appointment booking system in one large tertiary public hospital outpatient service center in China. *BMC Medical Informatics and Decision Making*, 14(1), 1–11. <https://doi.org/10.1186/1472-6947-14-49>
13. Laeliah, N., & Subekti, H. (2017). Waktu Tunggu Pelayanan Rawat Jalan dengan Kepuasan Pasien Terhadap Pelayanan di Rawat Jalan RSUD Kabupaten Indramayu. *Jurnal Kesehatan Vokasional*, 1(2), 102. <https://doi.org/10.22146/jkesvo.27576>
14. Devi, F. Z., & Dewi, E. R. (2019). STUDI EVALUASI SISTEM INFORMASI PENDAFTARAN DIRUMAH SAKIT UMUM DAERAH dr. LOEKMONO HADI KUDUS. *JKM (Jurnal Kesehatan Masyarakat) Cendekia Utama*, 6(2), 74. <https://doi.org/10.31596/jkm.v6i2.298>
16. Haryadi, D., & Solikhah, . (2013). Evaluasi Sistem Informasi Pendaftaran Pasien Rawat Jalan Di Rumah Sakit Umum Pku Muhammadiyah Bantul. *Jurnal Kesehatan Masyarakat (Journal of Public Health)*, 7(2), 55–66. <https://doi.org/10.12928/kesmas.v7i2.1013>
17. Zhu, Z., Heng, B. H., & Teow, K. L. (2012). Analysis of factors causing long patient waiting time and clinic overtime in outpatient clinics. *Journal of Medical Systems*, 36(2), 707–713. <https://doi.org/10.1007/s10916-010-9538-4>
18. Cao, W., Wan, Y., Tu, H., Shang, F., Liu, D., Tan, Z., Sun, C., Ye, Q., & Xu, Y. (2011). A web-based appointment system to reduce waiting for outpatients: A retrospective study. *BMC Health Services Research*, 11(1), 318. <https://doi.org/10.1186/1472-6963-11-318>
19. Susanti, Y., Azis, Y., & Kusnadi, D. (2015). Pengaruh *Appointment Registration System* terhadap Waktu Tunggu dan Kepuasan Pasien. In *Global Medical & Health Communication (GMHC)* (Vol. 3, Issue 1, p. 40). <https://doi.org/10.29313/gmhc.v3i1.1545>
20. Bramantyo, N. S., & Hariani, D. (2018). Inovasi Pendaftaran Online di Rumah Sakit Umum Daerah
21. K.R.M.T Wongsonegoro Kota Semarang. *Inovasi Pendaftaran Online Di Rumah Sakit Umum Daerah K.R.M.T Wongsonegoro Kota Semarang*, 1.
22. Wraikat, H., Bellamy, A., & Tang, H. (2017). Exploring Organizational Readiness Factors for New Technology Implementation within Non-Profit Organizations. *Open Journal of Social Sciences*, 05(12), 1–13. <https://doi.org/10.4236/jss.2017.512001>
23. Solihah, A. A., & Budi, S. C. (2018). Keefektifan Sistem Pendaftaran Online Pasien Rawat Jalan Rsup Dr. Soeradji Tirtonegoro Klaten. *Jurnal Manajemen Informasi Kesehatan Indonesia*, 6(1), 1. <https://doi.org/10.33560/v6i1.177>