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Strengthening Community Involvement in SIMRS Implementation at Leuwiliang Hospital to Support Regional Economic Development

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Abstract:

Low community participation will hinder the technological change that is being implemented. The purpose of this study is to increase community participation in utilizing the Hospital Management Information System (SIMRS) at Leuwiliang Hospital. This study uses a qualitative approach. Data were collected through interviews, observations and secondary data, then the data were analyzed with SWOT IFAS and EFAS. The results of the study showed that there were several factors causing low community participation in utilizing SIMRS, namely predisposing factors in the form of knowledge, attitudes, beliefs, culture and community characteristics. Enabling factors consisting of the availability of facilities, accessibility or ease of the system, supportive policies and community commitment and Reinforcing factors consisting of hospital staff, opinions from others, community support, the influence of friends and the environment. The strategy that can be used to increase community participation in utilizing SIMRS is an utilizing strengths to capture opportunities, including first increasing the optimization of the use of integrated SIMRS as the main instrument in supporting digital-based services, in line with national policies that require the use of information technology in health services, second encouraging the strengthening of the image of the hospital as a type B referral hospital with superior specialist services to expand the reach of the service area to cover all potential sub-districts, third developing sustainable and promotive and preventive health services based on SIMRS data in responding to the trend of increasing life expectancy and the need for long-term services.

Keywords : *Community Participation; SIMRS; Strategy*

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1. Introduction

Sustainable development is a global commitment that is realized through the Sustainable Development Goals (SDGs) set by the United Nations. One of the important goals in the SDGs is the third goal, Good Health and Well-being, which emphasizes the importance of ensuring a healthy life and promoting well-being for all ages. In this context, the health care sector is required to continue to innovate in order to improve service quality, system efficiency, and accessibility of medical information in accordance with the nine SDGs objectives, namely Industry, Innovation and infrastructure.

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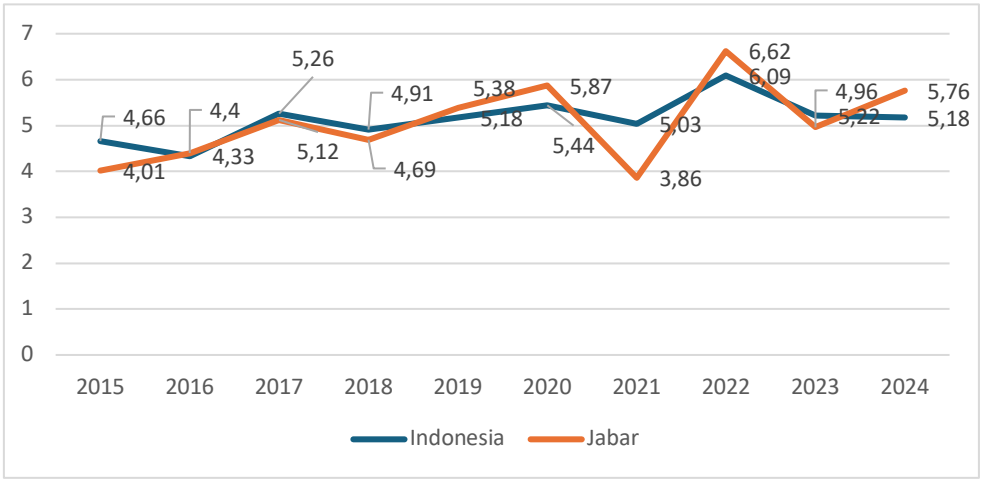
One of the indicators of SDGs on the third goal is Unmet Need for health services, namely the number of people who have health complaints but do not take treatment to health facilities (SDGs, 2024).



Source: STATISTIC INDONESIA (2024) processed by researchers

Figure 1. Health Care Needs In 2015-2024 That Have Not Been Met

Data from Figure 1 shows that although access to healthcare services is available, the level of Unmet Need remains relatively high, both nationally (5.13%) and particularly in West Java (5.06%). The spike in 2022—especially in West Java, which reached 6.62%—indicates a serious challenge in the utilization of healthcare services. Statistic Indonesia, 2024). The main reasons people do not seek medical care, such as the belief that they can self-medicate (61.87%) and the perception that medical attention is unnecessary (34.43%), reflect low health literacy and possibly a lack of trust in healthcare facilities. This suggests that in addition to improving physical access, educational and promotional interventions need to be strengthened to raise public awareness of the importance of proper medical treatment. (Statistic Indonesia, 2023a)

Another problem that affects people who do not seek treatment when experiencing health complaints is the accessibility of health facilities. Based on data from Statistic Indonesia that in 2024 the difficulty of accessing health services is 19.85%, difficult access to health services will be a consideration for the community to go to health services, this is due to large areas, difficult terrain and the construction of health facilities that still need to be added (Statistic Indonesia, 2023b). This research is also in line with Glaydisti and Susilawati's research which states that health access is influenced by factors such as distance from home to health care facilities, transportation costs, residence, public perception of Health, Service Quality, Income and insight (Mentari & Susilawati, 2022).

In addressing the problem of accessibility of health services need to be innovated using the development of Information Technology. With information technology can build a more integrated health, efficient and responsive to the needs of the community,

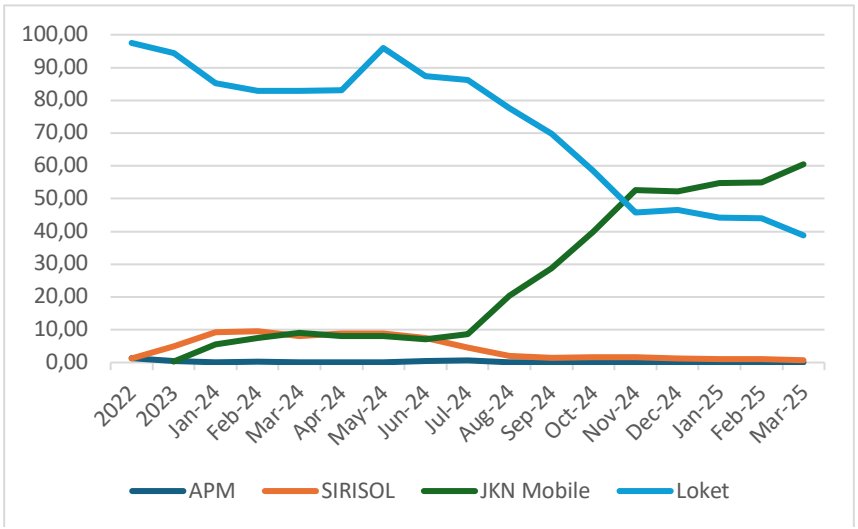
but also with the ease of accessibility of information technology it will be able to identify areas that are still difficult to reach health services, especially for remote areas. So that all people can easily reach health services, of course, through internet facilities and mobile applications (Rini, 2023).

The use of technology in the field of health becomes mandatory for developments in services, especially for hospitals that provide comprehensive health services. In its implementation using the hospital Information System or often known as SIMRS is an information system that integrates all health services in hospitals in the form of a coordination network, reporting and administrative procedures to obtain precise and accurate information that is part of the health information system that must be implemented in all hospitals in Indonesia. The goal is to improve professionalism, efficiency, effectiveness, performance, as well as access and hospital staff, SIMRS must also be integrated with the system that becomes a government program or local government that is part of the Health Information system (Kemenkes, 2013).

The benefits of using SIMRS are to improve the performance of hospital services in decision making to develop the right strategy in solving problems, operationally the benefits of SIMRS are to connect patient information between service units and provide the latest data so that communication between units is getting better (Radjab & Mandasari, 2022). Another benefit of using SIMRS is to improve quality services in accordance with standards and help improve the effectiveness and efficiency of hospital management (Pane et al., 2023), in addition, the use of SIMRS also has the benefit of facilitating the delivery of complex health services, organizational efficiency (Fadilla, 2021).

The impact of the use of SIMRS overall shows the quality of the service is not in accordance with standards (Radjab & Mandasari, 2022), inefficient management of organizations and resources in hospitals (Fadilla, 2021). SIMRS that has been built and implemented by the hospital will not succeed 100% if there is no community participation in the utilization of the policy.

Leuwiliang Hospital is one of four hospitals in Bogor regency that has implemented SIMRS which is a reference for hospitals in Bogor regency, hospitals in West Java and outside the province, besides that Leuwiliang hospital is often a Pilot project BPJS Program in the field of technology. Leuwiliang Hospital has implemented SIMRS from the main service (front office) and administrative services (back office) where the entire system is integrated with each other. However, in practice there are still obstacles in the use of SIMRS by the public, especially for online reservations and communication and collaboration both internally and externally with the Ministry of Health and cross-sector programs.



Source: Report Leuwiliang Hospital(2025) processed by researchers

Figure 2. SIMRS Utilization in Leuwiliang Hospital

Based on Figure 2, although there has been a significant increase in the use of digital services such as SIRISOL and JKN Mobile—from only 1.19% in 2022 to 60% in 2025—the utilization rate of SIMRS for online reservations by the public has not yet reached an optimal level. The decline in the use of manual counters from 97.5% to 38.79% does indicate a shift in public behavior towards technology-based services. However, this data also reflects disparities in technology adoption, likely caused by differences in digital literacy, limited access to technological devices, or even a lack of full trust in online systems.

Government policies and BPJS Health's promotion of SIMRS use in hospitals have successfully shifted the service system from conventional to digital. However, the surge in SIMRS users without adequate infrastructure and human resources preparedness has caused new issues, namely disrupted service flows and increased patient waiting times. This indicates that digital transformation in healthcare is not enough by merely providing applications or systems but also requires operational planning, public education, and simultaneous enhancement of hospital internal capacities.

Thus, although the shift towards digitalization of healthcare services is underway, the successful implementation still faces fundamental challenges that need to be addressed in a systemic and inclusive manner.

Efforts made to increase community participation in the use of SIMRS can be done by changing people's behavior from manual to using information technology, but in its implementation various obstacles and challenges can arise. According to The Theory of Lawrence Green (2005) these factors include Click or tap here to enter text. : Predisposing factors or what is often called predisposing factors, are those elements that influence or encourage a person to take certain actions. Predisposing factors in

community participation include: knowledge that is also a key in that can affect the level of community participation (Surya et al., 2024), Cultural values also play a role in shaping and assessing the quality of human behavior, so that a person consciously takes responsibility and carries it out in everyday life (Amalia, 2023), This perception affects the community's interpretation of increased community participation (Rismawati et al., 2020), using faith in religion can change a person's behavior to be able to return based on his beliefs and remain firm to do good deeds (Hayati, 2018), individual characteristics such as age and education reinforce values towards change due to changes in their mindset (Amalia, 2023).

Other factors, that is, enabling factors, are those elements that provide the conditions or support that allow a certain behavior to occur or help to realize an existing motivation, on the other hand, these factors also include obstacles that hinder the action. In addition, enabling factors also include new skills needed by individuals, organizations, or communities to drive changes in behavior or environmental conditions. In the context of intervention programs, enabling factors serve as intermediate goals that must be met, such as the provision of new resources and skills that support the implementation of health measures and organizational changes (Pakpahan, 2021. Enabling factors in the form of health facilities can affect patient participation in the use of Information Technology (Surya et al., 2024).

The next factor that can affect the role of society is reinforcing factors, namely elements that strengthen the occurrence of a particular behavior. This factor relates to the consequences of actions that can determine whether individuals receive positive feedback as well as get social support. Some of the factors that fall into this category are officers, opinions, social support, criticism. Environment. Reinforcing factors involve negative consequences or punishments, which can encourage individuals to change their behavior to a more positive one. Some reinforcing factors that provide social support can serve as enabling factors if it turns into more tangible support, such as financial assistance or transportation. Reinforcement can be imaginative. This reinforcement can be positive or vice versa, depending on the attitudes and behaviors of the people involved, with some of them having a greater influence on behavior. Social or community support can also encourage individuals to work together or join change-focused groups

Anchored in these frameworks, the research addresses the following questions : (1) Why is the participation of the community in utilizing the Hospital Management Information System (SIMRS) at Leuwiliang Hospital still low? (2) How is the strategy to increase community participation in utilizing Hospital Management Information System (SIMRS) at Leuwiliang Hospital?

2. Theoretical Background

Policy Review

Regulation of the Minister of health of the Republic of Indonesia number 82 of 2013 on Hospital Management Information System, this policy regulates the management

of Hospital Management Information System which regulates the SIMRS architecture, bridging with government systems. The purpose of this regulation is to improve the efficiency, effectiveness, professionalism, performance, and access to hospital services. Permenkes No. 82 of 2013 is a positive step towards digitizing the health care system in Indonesia. However, in its implementation, there are still many hospitals, especially in the regions, which face challenges such as limited technological infrastructure, untrained human resources, and lack of budget for system development. In order for SIMRS to be truly effective, full support from the government is needed in the form of continuous training, improvement of tegnology infrastructure, and supervision of the implementation of technical standards. In addition, it is important to ensure that the system developed is flexible and able to be integrated with other health information systems nationwide. With a holistic approach, SIMRS is not only an administrative tool, but also an important foundation for a health system that is data-driven and responsive to community needs

Public Service

Public service is an activity in fulfilling the interests of society carried out by one person or group of people by reason of material factors through a certain procedure, system, or mechanism. According to researchers Public Service is a reflection of the quality of the relationship between the state and its citizens to meet the needs of society and also build public trust in the government through a fair, open, and responsible process

E Government

E government according to Indrajit 2002, as cited in Hamrun et al., (2020) is an innovation to improve services to the community using information technology to improve the quality of public services to the community more quickly, effectively, efficiently and accountable. E Government is a new term used in providing public services to the public by utilizing computers and their networks carried out by government, private and community employees. E-government is an initiative to develop government administration by utilizing electronic technology in order to improve the quality of public services more effectively and efficiently. The development of e-government involves reorganizing management systems and work processes within the government environment by optimizing the use of information technology.

The objectives of E Government Development include : The formation of a network of information and public services with quality and wide reach throughout Indonesia without being limited by the barriers of space and time, Building a more synergistic relationship between the business world, in improving national economic development that is able to compete with the international world, Establish communication between the government, private sector and society in order to form state policy participation, Formed a management system that is transparent, efficient and able to facilitate transactions of all services.

Hospital Management Information System (SIMRS)
Hospital Information System or often known as SIMRS is an information system that integrates all health services in hospitals in the form of a coordination network, reporting and administrative procedures to obtain precise and accurate information that is part of the health information system that must be implemented in all hospitals in Indonesia (Kemenkes, 2013).

The benefits of using SIMRS include 1) accelerating, curating, integrating, improving services, increasing efficiency, simplifying hospital reporting. 2) Accelerating decision-making by identifying problems more quickly and facilitating the development of managerial strategies. 3) increase the new culture, transparency, coordination between units, improve understanding of the system, and reduce costs in hospitals (Kemenkes, 2013). SIMRS architecture consists of Front Office (registration, outpatient services, inpatient services and patient return process) and Back office (planning, procurement of goods/services, stock maintenance/inventory, asset management, human resources management, financial management)

Community Participation
According to Kozier Barbara in Margayaningsih, (2018) A role is an action of a person that is expected from others will be his position in a system. While the public according to Peter L Berger in Margayaningsih, (2018) is the whole of all human beings who form a unity. The purpose of community participation include : independent and improve the role and cooperation with institutions outside the government that have the same vision, expand the network of institutions and other organizations outside the government, and strengthen the role of community activists at every stage in building strong partnerships

Lawrence Green's Theory
Based on The Theory of Lawrence Green that the role of society in influenced by factors such as :

Predisposing factors
Predisposing factors are those elements that influence or encourage a person to take certain actions. This factor is related to the values, needs and motivations that the individual or group feels, which end up influencing their behavior. In this context, predisposing factors can be considered as personal considerations that determine how much a person or group feels compelled to participate, for example in the use of SIMRS modules or applications. In other words, these factors reflect internal reasons and impulses that influence a person's decision to engage in a particular activity or system. Predisposing factors in the participation of society include: knowledge, cultural values, perceptions , beliefs, individual characteristics (age, education).

Knowledge is also a key factor that can affect the level of community participation (Surya et al., 2024). Cultural values are values that are embedded in society and have been attached due to environmental influences. These values influence people's behavior, so they willingly carry out things that are considered part of their culture. Cultural values also play a role in shaping and assessing the quality of human

behavior, so that a person consciously takes responsibility and carries it out in everyday life (Amalia, 2023). This perception affects the community's interpretation of increased community participation (Rismawati et al., 2020). Using faith in religion can change a person's behavior to be able to return based on his beliefs and remain firm to do good deeds (Hayati, 2018). The age factor can also influence a person's demand for health services. Education can be formal or non-formal. Education can reinforce values against change due to a change in mindset (Amalia, 2023).

Enabling Factors

Enabling factors are elements of the environment that can support or facilitate individuals and organizations in carrying out an action. On the other hand, this factor also includes obstacles that hinder such actions, for example, the unavailability of transport that reduces a person's participation in health programs. In addition, enabling factors also include new skills needed by individuals, organizations, or communities to drive changes in behavior or environmental conditions. In the context of intervention programs, enabling factors serve as intermediate goals that must be met, such as the provision of new resources and skills that support the implementation of health measures and organizational changes. Examples include health care facilities, medical personnel, schools, clinics, as well as various resources that support the accessibility of these services. Enabling factors in the form of health facilities can affect patient participation in the use of Information Technology (Surya et al., 2024)

Reinforcing Factors

Reinforcing factors are those elements that reinforce the occurrence of a certain behavior. This factor relates to the consequences of actions that can determine whether individuals receive positive feedback as well as get social support. Some of the factors that fall into this category are officers, opinions, social support , criticism. Environment.

Reinforcing factors also involve negative consequences or punishments, which can encourage individuals to change their behavior to be more positive. Some reinforcing factors that provide social support can serve as enabling factors if it turns into more tangible support, such as financial assistance or transportation. Reinforcement can be imaginative, for example when someone is inspired to imitate someone's behavior in the use of technology, so that they are influenced to follow. This reinforcement can be positive or vice versa, depending on the attitudes and behaviors of the people involved, with some of them having a greater influence on behavior. Social or community support can also encourage individuals to work together or join change-focused groups

3. Methodology

This study the authors used a qualitative descriptive analytical approach. Qualitative research is research in the form of descriptive data in the form of writing or words from the results of interviews holistically. Qualitative research is a research process with the submission of questions and procedures, data collection inductively.

Qualitative research is described in the basic view (axiom) which is realistic, the relationship of researchers with the subject of research, generalization, feasibility. Data collection in this study was carried out through interviews with parties directly involved as users and managers of the Hospital Management Information System (SIMRS), including patients undergoing treatment, SIMRS administrators, medical records officers, information center staff, and the Patient Service Manager (MPP). In addition, observations were conducted by examining the service flow, the check-in process using the APM machine, and the registration process, both manually and through SIMRS. The data was also supported by internal hospital reports and data from the Central Bureau of Statistics (Statistic Indonesia). For data analysis, this study used the SWOT method (Strengths, Weaknesses, Opportunities, and Threats) with the IFAS (Internal Factors Analysis Summary) and EFAS (External Factors Analysis Summary) approaches.

4. Empirical Findings/Result

This study aims to identify the factors that cause community participation in utilizing Hospital Management Information System (SIMRS) at Leuwiliang Hospital is still low and determine the strategy

Predisposing Factors

The level of public understanding of SIMRS in Leuwiliang Hospital plays an important role in its successful implementation. This knowledge makes it easier for people to use SIMRS as a means of health care. The better the understanding, the more likely people are to be positive and consciously utilize the system. This is in line with the results of interviews with visitors Mr. K dated April 11, 2025 "*before there was a treatment here, it just hadn't been used, it happened that now it was out of birth so the control was here*".

The SIMRS system provides various service features that can be accessed by the public and one of the most commonly used is the online registration or registration feature. As stated by Mr. Kh, Interview, April 11, 2025 . *"The one used for registration only, the other has never been read"*. As well as the interview, Mrs. D, April 11, 2025 *"don't understand about other menus, maybe you can use them later if needed".*

But although the Registration menu / online registration is often used, there are also people who already understand other menus but have not used them because they do not need the service as presented by Mr. K, interview, April 11, 2025 *"most if there is a need, if for example looking for a hospital, registration, moving services "*. There are even people who have used the service menu for the transfer of health facilities such as interviews with Mrs. S, April 11, 2025 *" ... there are many, but what has been used is only the registration and separation of health facilities"*

Information on the use of SIMRS obtained from various sources including from officers at Leuwiliang Hospital. In an interview with Mr. Y, 11 April 2025 *"from the*

hospital by officers, explained about mobile JKN, assisted in how to register,". There is also information received from a doctor according to the confession of Mrs. S, April 11, 2025 *"...straight from the doctor".* There is also information obtained from colleagues/friends/sodara such as recognition from Mr. K, interview, April 11, 2025 *"...from colleagues"*

Although most people already know about SIMRS, there are still a number of people who do not understand or know the system well. According to a statement from Mr. Ki, interview, April 11, 2025. *"Haven't used, because I don't know...haven't heard ...first treatment, after hospitalization".*

The policy of using SIMRS in Leuwiliang Hospital is also a challenge for officers to provide education to the public about the use of the service. Many people need the help of officers to help the service process but in its application there are many obstacles in increasing the number of people. Such as information from The Information Center.
" For online services, it is still a challenge for information officers, because there are still many patients whose position is illiterate, we are very difficult, let alone the use of social media. Because most of those who go to the hospital are old, age problems are still a challenge, there are no cellphone patients, they don't understand how to use a cellphone like what, then when assisted, it turns out that the cellphone is so, so it can't be used"(Mrs. R, interview, April 11, 2025)

Increasing public understanding in using SIMRS can be done through various methods, either directly or indirectly, such as through social media, television, banners, and other information channels. This is also done in Leuwiliang Hospital to accelerate the process of education to the community. The results of interviews with Patient Services Manager (MPP) stated:
"Because people here tend to read it difficult, banners already exist, banners already exist, on IG already exist, but sometimes even though we have shared on social media. But more effectively we educate directly, so that people in education can convey to others. If at the beginning of every day, but now it is not often anymore because people have started to understand." (Mrs. Y, Interview, April 11, 2025)

Public knowledge of SIMRS at Leuwiliang Hospital is a key factor in the successful implementation of the service. The better the understanding of the community, the more likely they are to take advantage of SIMRS services independently and optimally, especially the most widely used online registration features. However, there are still many people who do not understand all the features available or have not used them because they do not have specific needs. Information about the use of SIMRS is obtained from various sources such as hospital personnel, doctors, and the environment. However, challenges remain, especially in terms of age limitations, digital literacy, and access to technological devices.

Enabling Factors
In SIMRS architecture consists of the main service activities (front Office) which consists of registration, outpatient services, inpatient services and patient return

process and there are also administrative services (back office) such as planning, procurement of goods/services, stock maintenance/inventory, asset management, human resources management, financial management. Mr. G Head of SIMRS installation (interview April 22, 2025) explained that *"Leuwiliang Hospital implemented SIMRS from 2019, at that time we were gradual, from the front office to the back office, so from the registration, service, support and then to the back office in management "*

Hospital Information System has a good impact on the development of health services by using the help of technology the benefits that can be felt from the use of SIMRS is to accelerate, curate, integrate, improve services, improve efficiency, simplify hospital reporting for hospitals. As conveyed by Mr. G Head of SIMRS installation (interview April 22, 2025) *"for the hospital itself SIMRS is very helpful for management and service because in SIMRS we have a data base, patient service data, administrative data and others that are integrated, it is very easy between units to perform services"*. The hospital Information System has also been introduced to the wider community in order to assist in accelerating the services needed by the community it was delivered directly by the Patient Services Manager (MPP) stated that :

"It has been running for one year, carried out in stages, initially requiring patients who have their own HP, when running for 3 months only reached 20 percent of the visits of 16,000-20,000 patients per month, after being evaluated at that time there was manual registration placed in the same place of registration, so there was manual registration of how many counters and there was Registration for those using M JKN or SIRISOL. Placed together in front. After the evaluation because the people here still do not care who is considered the same can list early in the morning the manual can also list in front is also treated the same. After that, an evaluation is carried out with the relevant sections between medical records, information centers and others. Then the latest Flow is made for patients who manually or do not use the application, now giving priority to patients who use the application, in order to provoke attention or attract patients and families to move to the application. Then it was moved manually to the back area and the clock started at 10.00 am, it could not be done in the morning, automatically for the numbers that could be in patients who did not register on the patient's application got a large number. And the results significantly shift the use of palication from 20 percent to 52% of patient visits. And many are forced to use the cell phones of their children, their brothers" (Mrs. Y, interview, April 11, 2025)

Hospital Information System in Leuwiliang Hospital that can be accessed by the public include Mobile JKN and SIRISOL especially for online reservation module for new patients, old patients or repeat patients. According to the statement of the head of medical records installation Mr. H, at the time of the interview on April 11, 2025, he stated that : *"...reservations are made for cash patients through the SIRISOLl application and for BPJS patients using the JKN Mobile application, if they cannot use the registration counter by queuing to the mobile JKN"*. It was also conveyed by the officer Information Center (IC) states that :

" For now at Leuwiliang hospital, patients are required to control using JKN mobile for reservation or registration, usually through JKN and SIRISOL mobile applications. SIRISOL application is an application from the hospital for cash patients, while JKN mobile is for BPJS patients"(Mrs. R, interview, April 11, 2025)
There are a lot of different methods that people have done in the use of the application but at this time many people have not been able to use it independently and have to be assisted by officers. This is in accordance with the statement of the IC officer Mrs R explaining in her interview that *" most in the RSUD environment are still helpful for registration, sometimes the eyes are not visible, we are helpful for registration, but if the patient is young we are just directing, for tutorial or how."*
Not just new patients, sometimes old patients who often seek treatment at Leuwiliang Hospital still have difficulty using JKN Mobile or SIRISOL both from re-logging in, and registering for re-treatment. This is reflected in the statement of the IC officer who stated that :
"So when the patient's position comes to the IC, it will sometimes take a month or 2 months to come back to the information asking the sandy what the tea did to me. That's why I love this post so please don't put it in your pocket but don't Let It Go " " (Mrs. R, interview, April 11, 2025)

In addition to account problems and number updates, problems that are often encountered during the implementation of SIMRS in Leuwiliang Hospital are about the system. Some of the obstacles that often occur is the queue that has been on the reservation does not appear at the time of treatment. This experience was obtained from a patient of Mr. R who is sitting in the queue for JKN Mobile registration so that improvements must be made by the registration officer using the registration account.

Computer is a very supportive means in the implementation of SIMRS, with a good means will improve system performance that will affect service. Based on statements from visitors through interviews with, Mrs. N, April 11, 2025 *"if I think the service support is good"*, this is also reinforced by another statement from Mr. K, interview, April 11, 2025 *" if it's good now, from the first there is a hospital, the faster, the more advanced, the better"*. There is also Mrs. S which states that the means of support in Leuwiliang Hospital is complete.

In addition to computers and supporters, there are other means to support the SIMRS process when the patient will check in on the day of the visit, namely the self-registration machine (APM), this machine is used to print participant eligibility letters (SEP) from BPJS users and print barcodes for service needs. The results of the interview with the head of the medical records installation, Mr. H, April 11, 2025 *"there are five APM machines, four officers and one APM machine is used for patients who can use their own machines ".*

In addition to SIMRS supporters in hospitals, the community must also have other means to support in the form of mobile phones and internet networks. Both SIMRS applications that use JKN Mobile and SIRISOL must be installed on their personal cellphones. Most visitors have used his cellphone to support services at Leuwiliang Hospital. In accordance with the statement visitor *"access JKN mobile using a*

personal mobile phone" (Mrs. D, Interview, April 11, 2025). Similarly, the internet network is also very important when using SIMRS at home most people state that *"there are no network constraints"* (Mrs. D, Interview, April 11, 2025).

But not a few people who have not used SIMRS because they do not have facilities in the form of devices/mobile phones such as Mr. O, through the results of the interview stated that *" not yet mengunkan JKN, still manual because it does not have HP".* The same goes for the statement from Mrs. U, that *" not yet using, because it does not have HP".* In addition, there are also people who have mobile phones, but not in registering an account because the device does not support. This statement was delivered by the Patient Service Manager Mrs. Y who stated that *"each patient or patient's family uses a different cellphone, the same RAM power, and different providers, small capacity so that loading continues...It is recommended to use a cellphone that supports"*

At the beginning of the implementation of mandatory policies for the use of SIMRS services, such as SIRISOL and Mobile JKN, many found obstacles because some people found it difficult to adapt. But over time, people began to get used to using these services and feel the ease of accessing services at Leuwiliang Hospital.This is in accordance with the statement of the IC Officer Mrs. R who stated that
"if the early days of using mobile JKN 90% of people say it's really complicated, the first patient who came said it was really complicated, but after the second one said oh yes yes delicious tea it turned out, the reservation is automatic, no need to go back and forth, the agreement automatically appears." (Mrs. R, Interview, April 11, 2025)

Another benefit that is felt by the community directly is to facilitate services and information on health services at Leuwiliang Hospital. This is also reinforced by several experiences of visitors *" Alhamdulilah helps, fast, more delicious" (Ny. Su, interview, April 11, 2025).* Similarly, the opinion of Mr. Kh *" Yes, it's good, you don't have to queue, if you have to wait for a long time manually, if you use a mobile, you just have to wait at the Polyclinic, you can queue, and you can't queue".* Shared also the experience of Mrs. S *"no need to take the appointment queue, no need to queue, before using JKN mobile home too late, sometimes up to 3 o'clock, but now it's not"*

The implementation of SIMRS at Leuwiliang Hospital has shown significant progress since it was gradually implemented since 2019. Although various educational efforts have been carried out and the provision of supporting facilities such as Mobile JKN, SIRISOL and APM machines, their implementation still faces challenges, especially in terms of digital literacy, limited devices, and the habit of using manual services. Service differentiation strategies such as prioritizing patients who use the app have been shown to increase users by more than 50%. However, some people still rely on the help of officers or have not been able to use the application independently due to device or network limitations. SIMRS at Leuwiliang Hospital has brought a positive impact in improving the quality of health services, accelerating service processes, and strengthening digital transformation in the regional health sector.

Reinforcing Factors

An encouragement that strengthens the community to be able to act in response to changes due to policy changes. This encouragement plays a role in convincing people to really believe and be ready to run new things, both previously known and completely new. This belief is a trigger for change towards a more progressive direction. In practice, changes in service at Leuwiliang Hospital which was originally done manually began to transform using information technology. All hospital staff, including from the IC, MPP, doctors, health workers and registration, work together to provide education to the public so that they are able and willing to use this system, both with the help of officers and independently. According To Mrs. Y in his interview that stated that the information obtained from hospital officials *" from the hospital by the officer, explained about mobile JKN , assisted how to register".* A confession from Mr. K in the interview stated that the use of SIMRS services was obtained from colleagues *" ... information from colleagues".* There is also a confession. S that SIMRS information is obtained directly by the doctor *" directly from the doctor".*

The role of officers in educating the community also reinforces the community to switch to SIMRS in service at Leuwiliang Hospital, despite many challenges in the process. This has been justified by MPP Mrs.Y who stated that *"...it is more effective that we educate directly, so that people who are educated can convey to others. At the beginning of every day, but now it's not often anymore. Because people are beginning to understand".* The education is also carried out by the IC on the registration process, said Mrs. R explanation that *"...most of the hospital environment is still assisted for registration, sometimes there are no visible eyes, we help register. But if patien is still easy, we only influence, for tutorials or how".* On another occasion the registration officer with the spirit of helping the community in checking in on the APM machine, the officer was seen using his hand while holding the visitor's cellphone to start entering data on the APM machine, while providing explanations and starting to teach patients. After clarification to the head of the installation of medical records Mr. H. that *"currently already doing education and provide tutorials to patients the use of APM machines independently..."*

Education delivered by hospital staff from various parts has been embedded in the minds of the community. With full awareness, people who have understood the information begin to pass it on to others voluntarily, without any coercion. This is evidenced by the confession of Mr. R in his interview stated that *"I got the information from another patient"*. Reinforced also the results of the observations of researchers in seeing visitors who explain the use of SIMRS to other visitors, looks they seriously discuss it. After clarification to Mrs. A Why are willing to explain about SIMRS in Leuwiliang Hospital, he stated that *"let this Mother Know and use the same as me ... Yes I help use mobile JKN, because now if you don't use this you can't get treatment, this is also easy to use, not complicated, you can register at home"*

The transformation of services in Leuwiliang Hospital from a manual system to the use of information technology through SIMRS and mobile JKN was successfully driven by the active role of hospital staff in providing direct education to the community. Consistent and thorough education by officers from various sections,

including IC, MPP, doctors, and registration sections, not only increases people's understanding, but also fosters awareness and independence in the use of digital services. As a result, people are able not only to use the system independently, but also to voluntarily disseminate information to others.

SWOT Analysis With IFAS and EFAS

Based on the results of the study, using SWOT analysis obtained findings include :

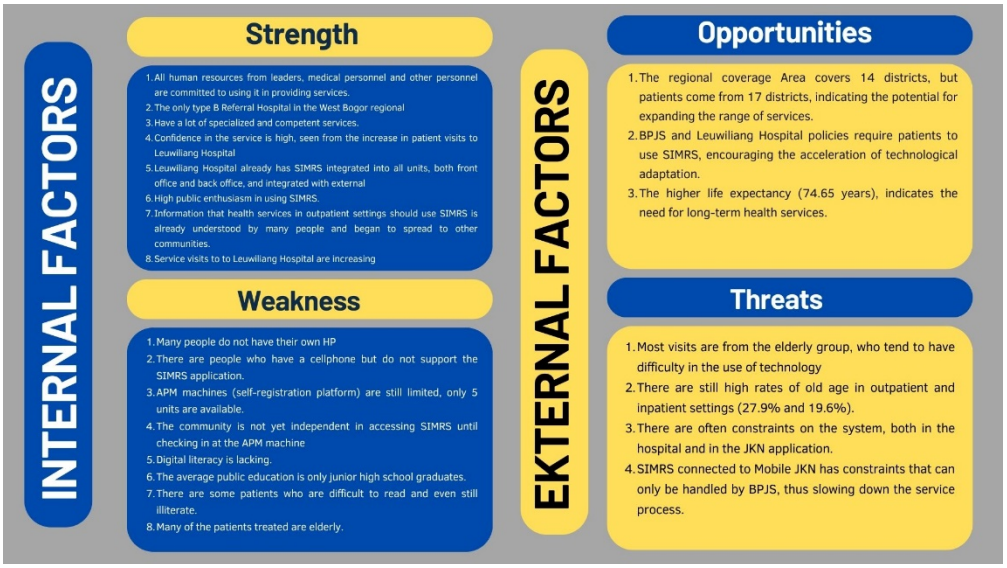


Figure 3. SWOT Analysis IFAS & EFAS

Priority analysis for addressing issues in order to achieve strategic objectives is conducted using IFAS and EFAS. This analysis involves assessment or scoring by assigning weights and ratings. The weighting and rating are used to identify the dominant influences as well as the strengths, opportunities, and threats within the strategic planning framework for increasing community participation in utilizing SIMRS at Leuwiliang Hospital.

Internal Factors :

Table 1 *Strength*

No	Strategic Factor	Value	Ratings	Score
1	All human resources from leaders, medical personnel and other personnel are committed to using it in providing services.	0,13	4	0,50
2	The only type B Referral Hospital in the West Bogor regional	0,04	3	0,13
3	Have a lot of specialized and competent services.	0,08	3	0,25
4	Confidence in the service is high, seen from the increase in patient visits to Leuwiliang Hospital	0,08	3	0,25
5	Leuwiliang Hospital already has SIMRS integrated into all units, both front office and back office, and integrated with external	0,13	4	0,50
6	High public enthusiasm in using SIMRS.	0,08	4	0,33
7	Information that health services in outpatient settings should use SIMRS is already understood by many people and began to spread to other communities.	0,04	3	0,13
8	Service visits to to Leuwiliang Hospital are increasing.	0,13	4	0,50
	Total	**0,71**		**2,58**

Source : Analysis (2025)

Table 2 *Opportunities*

No	Strategic Factor	Value	Ratings	Score
1	The regional coverage Area covers 14 districts, but patients come from 17 districts, indicating the potential for expanding the range of services.	0,08	4	0,33
2	BPJS and Leuwiliang Hospital policies require patients to use SIMRS, encouraging the acceleration of technological adaptation.	0,13	4	0,50
3	The higher life expectancy (74.65 years), indicates the need for long-term health services.	0,08	3	0,25
	Total	**0,29**		**1,08**

Source : Analysis (2025)

External Factors :

Table 3 *Weaknesses*

No	Strategic Factor	Value	Ratings	Score
1	Many community members do not have their own mobile phones.	0,12	3	0,35
2	Some people have mobile phones, but they are not compatible with the SIMRS application.	0,08	2	0,15
3	The APM (Self-Registration Kiosk) machines are still limited, with only 5 units available.	0,12	2	0,23
4	The community is not yet independent in accessing SIMRS or checking in via APM machines.	0,08	2	0,15
5	Digital literacy among the community is still low.	0,08	2	0,15
6	The average education level of the community is only junior high school.	0,04	1	0,04
7	Some patients have difficulty reading or are even illiterate.	0,04	2	0,08
8	Many of the patients seeking treatment are elderly.	0,08	2	0,15
Total		**0,62**		**1,31**

Source : Analysis (2025)

Table 4 *Threats*

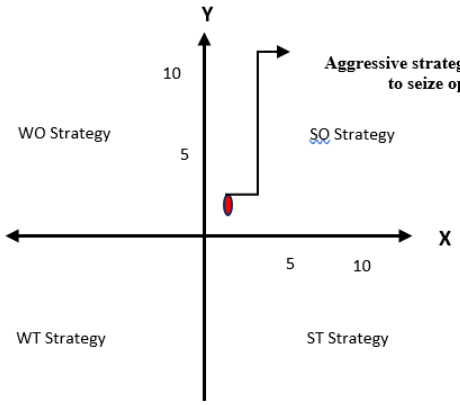
No	Strategic Factor	Value	Ratings	Score
1	Most visits are from the elderly group, who tend to have difficulty in the use of technology	0,12	2	0,23
2	There are still high rates of old age in outpatient and inpatient settings (27.9% and 19.6%).	0,12	2	0,23
3	There are often constraints on the system, both in the hospital and in the JKN application.	0,08	4	0,31
4	SIMRS connected to Mobile JKN has constraints that can only be handled by BPJS, thus slowing down the service process.	0,08	3	0,23
Total		**0,38**		**1,00**

Source : Analysis (2025)

Priority analysis of problem solving problems that occur to achieve strategic goals using IFAS and EFAS. This analysis uses assessment or scoring by giving weight and rating, weighting and rating serves to identify the dominant influence and strengths, opportunities and threats contained in the strategic planning corridor to increase community participation in utilizing SIMRS at Leuwiliang Hospital. With the following calculation results :

Table 5. Calculation of Internal and external values

Internal Factors	External Factors
X = ***Strength - Weaknesses***	Y= ***Opportunities – Threats***
X = 2,58-1,08	Y= 1,31-1
X= 1,5	Y= 0,31



IFAS and EFAS Diagram

Based on calculations using scoring using IFAs and EFAS, it is obtained that the X axis and Y axis are positive so that they enter Quadrant 1 (one), namely aggressive strategies, utilizing strength to capture existing opportunities, namely Strength - Opportunities (SO)Strategies.

5. Discussion

Based on calculations using scoring using IFAs and EFAS, it is obtained that the X axis and Y axis are positive so that they enter Quadrant 1 (one), namely aggressive strategies, utilizing strength to capture existing opportunities, namely Strength - Opportunities (SO)Strategies.

Table 6. SWOT Strategy

EFAS/IFAS	Strength (S)	Weaknesses (W)
Opportunities (O)	1. Enhancing the optimal utilization of the integrated SIMRS as a primary instrument in supporting digital-based services, in alignment with national policies mandating the use of information technology in healthcare services. (S3, S5, S6, S7, O2) 2. Promoting the hospital's image as a Type B referral facility with superior specialist services to expand service coverage to all potential subsidiaries. (S2, S3, S4, O1)	1. Enhancing public digital literacy capacity through integrated education programs involving community leaders, health cadres, and public information media as a means to accelerate adaptation to digital services. (WS, W6, W7, O2) 2. Developing inclusive infrastructure and facilities to support digital services, including adding APM units and developing alternative systems for communities without digital

EFAS/IFAS	Strength (S)	Weaknesses (W)
	3. Developing sustainable and promotive-preventive healthcare services based on SIMRS data to respond to the trend of increased life expectancy and the need for long-term care services. (S3, S8, O3)	devices or with limited capabilities. (W1, W2, W3, W4, O1) 3. Redesigning the SIMRS interface to be elderly- and disability-friendly so that digital services are accessible to all community segments without significant barriers. (W7, W8, O3)
Threats (T)	1. Optimize the role of human resources in providing assistance for the use of digital services, especially for vulnerable groups such as the elderly and patients with limited literacy, in order to maintain the quality and continuity of services. (S1, S2, T1, T2) 2. Strengthen the maintenance and supervision system for information technology infrastructure, and enhance coordination with BRJS and external system providers to ensure the stability and security of service information systems. (S5, S7, T3, T4) 3. Increase the capacity for regular technical monitoring and evaluation of SIMRS, including system readiness to handle surges in service access. (S2, S3, S4, S6, S8, T3)	1. Implement a hybrid service model (manual and digital) as a transitional adaptation for community groups that are not yet fully prepared in terms of technology or literacy. (W1, W2, W5, W7, W8, T1, T2) 2. Establish a digital assistance team in outpatient service and registration areas to provide direct support to patients who face difficulties using the SIMRS system. (W3, W4, T3) 3. Develop and implement Standard Operating Procedures (SOPs) for handling digital system disruptions, including the use of backup systems and service protocols during technological interruptions. (W3, W6, T4)

The analysis highlights both internal strengths and weaknesses as well as external opportunities and threats in the implementation of SIMRS at Leuwiliang Hospital, especially in relation to enhancing community involvement to support broader regional economic development.

Strengths and Opportunities (SO Strategies)

The hospital's strategic focus includes optimizing the integrated SIMRS as a digital backbone aligned with national policies, promoting the hospital’s status as a Type B referral center, and developing data-driven preventive health services. These directions are consistent with best practices observed globally.

For example, Scheibner et al. (2021) emphasize that national eHealth implementation success often stems from well-structured digital frameworks supported by policy mandates, stakeholder engagement, and an emphasis on interoperability. Leuwiliang Hospital's strategy to use SIMRS in support of digital-based services (S1, S5, S6) directly reflects this recommendation.

Furthermore, Putri et al. (2024) underscore how patient data analysis using modern technologies can significantly improve public health interventions, particularly when

used for long-term care planning—supporting the hospital's initiative to develop sustainable, preventive healthcare based on SIMRS data (S3, S6, O3).

Additionally, Khairani et al. (2025) highlight that community participation in public information systems is strongly linked to service accessibility and relevance. The hospital's effort to broaden service reach and health equity through SIMRS aligns with their findings, reinforcing the need to optimize the digital system's inclusivity.

Strengths and Threats (ST Strategies)

The ST strategies focus on optimizing human resources to assist vulnerable populations, enhancing infrastructure and coordination, and ensuring readiness for surges in service. This aligns with insights from Laurisz & Heumann (2024), who argue that effective community health participation is dependent on staff capacity and inclusive digital environments, especially for populations with limited digital literacy.

Additionally, Russpatrick et al. (2021) emphasize the importance of participatory system design and continuous user engagement in health information systems like DHIS2 in Rwanda. Similarly, Leuwiliang Hospital's emphasis on improving supervision and maintenance of SIMRS (S6, T2) and coordinating with external actors reflects these participatory principles.

By targeting elderly and low-literacy populations (S1, T1), the hospital also acknowledges a critical challenge identified by Scheibner et al. (2021), who note that underserved groups are often left behind during digital transitions unless specifically addressed in strategy formulation.

Weaknesses and Opportunities (WO Strategies)

Leuwiliang Hospital identifies weak public digital literacy and limited access to infrastructure (W1, W2, W3) as key obstacles. To address these, strategies such as public education campaigns and inclusive infrastructure development are proposed.

Khairani et al. (2025) provide support for this approach, noting that increasing digital literacy and building trust through public information systems can elevate community engagement. Likewise, Russpatrick et al. (2021) advocate for using local knowledge and community leaders to co-design solutions that fit community needs—reflected in the hospital's efforts to redesign SIMRS interfaces and offer alternatives for digital minorities (W1, W3, O1).

These strategies are also essential for maximizing economic development outcomes, as equitable access to digital health platforms ensures more inclusive participation in healthcare systems, contributing to broader health equity and labor productivity.

Weaknesses and Threats (WT Strategies)

WT strategies focus on bridging digital divides and system vulnerabilities by implementing hybrid service models, digital assistance teams, and standard operating procedures (W1–W6, T1–T4). Scheibner et al. (2021) stress that technical disruptions and literacy gaps are primary causes of eHealth failure, which this strategy set directly addresses.

Additionally, Laurisz & Heumann (2024) recommend hybrid digital-manual services to ensure that no patient group is excluded. By offering manual options and support staff (W3, W4, T3), Leuwiliang Hospital exemplifies adaptive digital transformation.

Finally, the development of SOPs for system downtime and patient support (W3, W6, T4) aligns with Putri et al. (2024) who warn that technical inconsistencies can jeopardize trust and data continuity, ultimately affecting service uptake and satisfaction.

6. Conclusions

The low level of community participation in utilizing the Hospital Management Information System (SIMRS) at Leuwiliang Regional Public Hospital (RSUD Leuwiliang) is caused by various interrelated factors. First, in terms of *predisposing factors*, public knowledge about SIMRS remains limited. This is worsened by the public's generally apathetic attitude and lack of independence in accessing digital services, along with insufficient trust in the system. Additionally, people's habits of relying on manual services hinder the transition to digital systems.

Second, in terms of *enabling factors*, infrastructure limitations—such as the insufficient number of Self-Registration Machines (APM)—also play a role. Furthermore, not all members of the community have access to adequate mobile devices, either in terms of ownership or device capability. The SIMRS itself is considered inefficient due to a complex user interface and repetitive data entry processes. Although supporting policies from both the government and the hospital are in place, their implementation in the field has not yet been fully optimal.

Third, from the perspective of *reinforcing factors*, staff assistance in helping users operate SIMRS has begun and is showing positive outcomes in promoting public independence. However, information about the service has not yet reached all areas within the hospital's service coverage, and its dissemination has not been conducted widely or voluntarily by the community. The strategy that should be implemented to enhance community participation in utilizing SIMRS is to leverage strengths to seize existing opportunities—namely, the Strengths–Opportunities (SO) strategy.

Based on the results of the study, hereby researchers provide advice or recommendations, among others : Conducting direct socialization and regularly training the community in using the system, Involvement of health cadres, community leaders, religious leaders as digital literacy agents, Create digital-based informative media with simple information both visually, short video, broadcast in social media,

Continue to provide assistance gradually towards community independence, The addition of APM machines from 5 units to 10 units which are placed in strategic places and spread which are intended for people who are already independent without the help of officers. Each APM machine is equipped with an easy-to-understand guide, Continue to provide manual services to reach people who do not have digital access or due to technical problems, Redesigned SIMRS appearance that is friendly to the elderly both in the application and the APM engine such as changing the size of the posts, simplifying the menu for entries, Develop features that can be accessed by the disabled such as for the blind, deaf, walkers and Keep providing fast track on patients with risk assessment with red category based on get up and go risk assessment.

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