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Implementation of Digital Public Service Malls for Medical and Health Workers in Jombang Regency

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ABSTRACT

The Digital Public Service Hall (PSH) is an innovation in public services that integrates various administrative services through a digital platform. Through PSH Digital, people can access administrative services easily without having to come directly to the service office. This innovation is expected to be able to speed up the bureaucratic process, improve service efficiency, and provide a better experience to the community. This study aims to analyze the implementation of Digital PSH for medical and health personnel, as well as identify obstacles and solutions in its implementation. This research is qualitative by using Edward III's policy implementation theory, which includes communication, resources, disposition, and bureaucratic structure as indicators of success. The results of the study show that the implementation of the Digital Public Service Hall (PSH Digital) in Jombang Regency has succeeded in improving the administrative efficiency of medical personnel, by reducing the time for obtaining permits from three days to one day. Most medical personnel are satisfied with fast and transparent services, although there are still challenges such as internet network constraints and digital literacy. In addition, there is still the possibility of limitations in the digital skills of healthcare workers, which could hinder the full adoption of these services. The proposed solutions include infrastructure improvements, intensive training, and inter-agency coordination to ensure program effectiveness. This implementation is considered to have great potential to improve administrative efficiency and quality of health services, even though it requires continuous support

INTRODUCTION

The Digital Public Service Hall (PSH) is one of the innovations in the transformation of public services in Indonesia, which integrates various types of government and private services in one digital platform (Ulva et al. 2024). Through PSH Digital, people can access administrative services easily without having to come directly to the service office. This innovation is expected to be able to speed up the bureaucratic process, improve service efficiency, and provide a better experience to the community. In this era of digitalization, PSH Digital is present as a solution to reduce time, cost, and distance barriers, especially in areas that have limited physical access. In Jombang Regency, the implementation of PSH Digital is not only aimed at the general public, but also targets medical personnel and health workers as one of the groups of service users. This is important considering that health workers have a strategic role in ensuring that health services run optimally, especially in situations that require quick coordination, such as a pandemic. With PSH Digital, administrative services such as registration, licensing, and data recording for health workers are expected to run more effectively and support their productivity in serving the community.

PSH Digital offers many benefits even though its implementation often faces various challenges (Hasanah et al. 2024). In Jombang Regency, one of the main obstacles is the uneven readiness of digital infrastructure. Some health facilities, especially those in remote areas, may not have adequate internet access. In addition, there is still the possibility of limitations in the digital skills of healthcare workers, which could hinder the full adoption of these services. This condition raises an important question: the extent to which PSH Digital can be effectively implemented to support the needs of medical and health workers in Jombang Regency. Another formulation of the problem is related to the direct impact of PSH Digital on the quality of work of medical and health workers. Whether the implementation of these services is able to reduce their administrative burden so that they can focus on the main task, which is to provide health services Or, conversely, whether PSH Digital adds a new workload due to lack of training or clarity of procedures. This is important to evaluate, considering that the success of the implementation of PSH Digital is highly dependent on how the main users, in this case health workers, receive and utilize the system.

The implementation of Digital PSH has a diverse impact on medical personnel and health workers (Edyanto 2024). On the positive side, the digitization of services can reduce the time needed for administrative management, such as the extension of practice permits or health data reporting. With a more integrated system, healthcare workers can also access relevant information in real-time, thereby improving the accuracy and speed of decision-making. This impact has the potential to increase the efficiency of overall health services. However, on the other hand, the implementation of PSH Digital can also pose new challenges. For health workers who are not familiar with digital technology, this system can be an additional burden. The lack of training and mentoring in the use of digital platforms has the potential to slow down adoption and even create resistance. Therefore, it is important to analyze how this impact affects the productivity and job satisfaction of health workers in Jombang Regency, as well as find solutions to optimize the benefits.

In an effort to overcome the challenges in the implementation of Digital PSH for medical and health workers, the first step that needs to be taken is to ensure the readiness of digital infrastructure in all areas of Jombang Regency. Local governments must invest in strengthening internet networks, especially in health facilities located in remote areas. In addition, the development of the Digital PSH system needs to involve health workers directly so that the platform developed suits their needs and is easy to use. The next step is to provide intensive training and mentoring to medical personnel and health workers. This training not only covers how to use the platform, but also the importance of understanding the benefits of digitalization in improving work efficiency. This approach must be followed by periodic monitoring and evaluation to ensure that the system is running as expected. With this solution, it is hoped that PSH Digital can support the strategic role of medical and health personnel in providing the best service for the people of Jombang Regency..

METHODS

The research method used is qualitative with a descriptive approach. The Policy Implementation Theory by George C. Edward III used in this study focuses on how public policies are implemented in the field (Tiwa, Posumah, and Londa 2023). Edward III identified four main indicators that affect the success of policy implementation, namely communication, resources, disposition (implementation attitude), and bureaucratic structure. Data collection in this study was carried out with a qualitative approach. The main techniques used include in-depth interviews, participatory observations, and document studies. Interviews were conducted with medical personnel, health workers, and officials at the Jombang Regency Health Office to understand their perception of the Digital Public Service Mall. Observations are carried out in locations where digital service systems are implemented, to see firsthand the interaction between service users and the technology used. The document study includes an analysis of policies, regulations, and implementation reports related to the Digital Public Service Mall. The data triangulation technique is used to ensure the validity of information obtained from various sources. In addition, quantitative data in the form of statistics on the use of digital services is also analyzed to provide an empirical picture of policy effectiveness. With this approach, the research seeks to uncover holistic and in-depth data. The data analysis technique used in this study refers to the Miles and Huberman model (Miles, Huberman, and Saldana 2014), which consists of three main stages: data reduction, data presentation, and conclusion drawn. The information obtained from interviews, observations, and documents is sorted based on their relevance to the focus of the research. The presentation of data is carried out by compiling findings in the form of tables, diagrams, and descriptive narratives to facilitate interpretation. Conclusions were drawn by comparing research findings with Edward III's policy implementation theory, so that the conclusions produced were based on data and theory. This technique provides a systematic and in-depth overview of the implementation of Digital Public Service Malls for medical and health personnel.

RESULTS AND DISCUSSION

Implementation of Digital Public Service Malls on the Administrative Efficiency of Medical and Health Personnel

Digital-based public service innovation is a response to the public's need for faster, more efficient, and transparent services in the modern era (Daraba et al. 2023). This digital transformation is driven by the development of Information and Communication Technology (ICT) which affects various sectors, including government administration and public services. In the context of public services, digital-based innovation not only serves to reduce administrative time and costs, but also to increase the accessibility and accountability of the government in providing services to the community. Digital public services are a form of application of the e-government concept that aims to integrate services through online platforms. This allows the public to access information and solve various administrative needs independently without having to come to the service office. Technologies used in digital services can include mobile applications, web portals, cloud-based services, and data integration systems. In some cases, technologies such as big data and artificial intelligence have also begun to be applied to improve service efficiency. This digitalization allows the government to provide services that are not only responsive, but also personalized and in accordance with user needs. The implementation of digital-based public services provides many benefits, especially in terms of time and cost efficiency (Susilawati et al. 2024). The public can access services quickly without having to queue at the service office, while the government can reduce the administrative burden through process automation. For example, services such as business license registration, tax payment, or submission of administrative documents can be done online with just a few clicks. This not only reduces bureaucratic complexity, but also increases public satisfaction with the services provided. In addition, digital innovation in public services also increases transparency. With a digital system, people can easily track the application process or the status of their services in real-time. This creates higher accountability because the government must be accountable for every stage of the service process. With better transparency, the risk of corrupt practices and abuse of authority can be minimized. In the

context of health services, for example, digitalization can ensure that the distribution of incentive funds for medical personnel is carried out transparently and on target.

The success of digital public services is highly dependent on adequate technological infrastructure and the digital literacy of the community (Lukitawati and Novianto, 2023). In areas with limited internet access or lack of technological resources, the implementation of digital services often faces obstacles. This can lead to gaps in access to public services between urban and rural communities. To overcome this, the government needs to ensure that digital infrastructure is available evenly across the region, including in remote areas. Investment in the development of internet networks, community service centers, and digital training for the community is an important step in ensuring the inclusivity of digital public services (Sisilianingsih et al. 2023). In addition, the success of digital-based public service innovation also requires strong regulatory support. This regulation serves to protect users' personal data, ensure information security, and provide clear guidelines on digital service governance. For example, personal data protection laws are crucial to prevent data misuse by irresponsible parties. Regulations must also encourage the use of technology that is user-friendly, inclusive, and responsive to the needs of the community (Irfan.B 2024). One of the important aspects in digital-based public service innovation is community participation. Community involvement in the design, implementation, and evaluation of digital services can increase the relevance and success of the program. This participatory approach allows the government to understand the specific needs of the community, including vulnerable groups such as the elderly or people with disabilities. In this case, the development of digital applications or platforms must consider inclusivity factors so that they are accessible to all groups, regardless of social, economic, or geographical background (Asmaniah et al. 2024).

Digital transformation also presents new challenges, especially in terms of adapting work culture in the government environment (Oktareza et al. 2024). Many government employees who are used to manual systems often find it difficult to switch to digital technology. Therefore, employee training and capacity building are important elements in ensuring the successful implementation of digital services. In addition, the paradigm shift from a traditional approach to a technology-based approach also requires visionary leadership support. Leaders who support innovation must be able to manage change, encourage creativity, and ensure that the services provided remain centered on the needs of the community (Suriadi 2024). In practice, the success of digital-based public service innovation can be seen from various case studies in various countries. For example, the implementation of e-government in Estonia has become a globally recognized model for being able to provide public services that are almost entirely digital. This approach not only improves efficiency and transparency, but also creates a stronger relationship between society and government. Another example is the use of digital applications in health services in Indonesia, such as Satu Data Kesehatan, which allows for the integration of patient data and better coordination between health facilities. These studies show that with good planning, digital-based public services can be a solution to create better governance (Suri, Amri, and Hildawati 2024). Overall, digital-based public service innovation is a strategic step to increase the efficiency, transparency, and accessibility of public services (Andry and Sawir 2024). However, its success is highly dependent on infrastructure support, regulation, community participation, and technological readiness at the local level. With an inclusive and sustainable approach, digital transformation in public services can create a significant positive impact on people's lives (Irfan.B 2024).

The implementation of the Digital Public Service Hall (PSH Digital) in Jombang Regency has made a major change in the way medical and health personnel are managed in administration. This Digital PSH is present as a solution to various bureaucratic obstacles that are often faced by health workers in taking care of licensing and other administrations. PSH Digital is a form of digital transformation of public services, where various services that used to require direct visits to government offices can now be accessed online. With this platform, medical personnel no longer need to go through a long and complicated process that often slows down their work in providing services to the community. The background of the implementation of PSH Digital in Jombang is greatly

influenced by the need to improve the quality of public services, especially in the health sector. Before digitalization, the management of practice licenses, certifications, or other administrative completeness took a long time. But now, with PSH Digital, all of these processes can be completed quickly and transparently. One of the important features that PSH Digital offers is its integrated administration services. Health workers can access various administrative services such as applying for a Practice License (PL), Registration Certificate (STR), and managing their competency data through a single digital platform. Before this platform was implemented, the collection of requirements documents was often a major challenge. Now, the process is simpler and more efficient. In addition to speeding up the licensing process, PSH Digital also increases transparency in administrative management. Information related to requirements, fees, and turnaround times is available online, reducing the potential for maladministration such as illegal levies. Medical personnel can monitor the status of their applications in real-time, making it easier for them to anticipate possible problems.

The efficiency resulting from the use of PSH Digital is quite significant. For example, before the digital system, the time to complete the permit could take up to three days, while with PSH Digital, the process could be completed in just one day. This is clear evidence that digitalization has a positive impact on accelerating public services. In addition, PSH Digital also helps in the management of data on health workers nationally. An integrated database allows local and central governments to have accurate information about active medical personnel, including their specialties, practice locations, and licensing status. This is very important in planning and decision-making in the health sector, especially when facing emergency situations or planning for the equitable distribution of health workers. However, the implementation of PSH Digital is not spared from challenges. One of the main obstacles faced is the lack of digital literacy among medical personnel, especially those who are elderly. Many of them find it difficult to operate digital systems and need special assistance. The local government also responded to this by providing training, technical assistance, and information centers that can be accessed by health workers. In addition to technical challenges, technological infrastructure is also a concern. A stable internet connection and other supporting devices are the main requirements for the PSH Digital system to run optimally. Jombang Regency itself already has adequate infrastructure to support this digitalization, although improvements are still needed in several areas where internet access is still limited. In terms of benefits, many medical personnel are satisfied with the existence of PSH Digital. They not only feel the convenience of managing permits, but also feel the reduction in administrative burden. With less time spent on administrative matters, medical personnel can focus more on providing services to patients.

The implementation of Digital PSH also has a positive impact on overall health services (Ariyanti et al., 2024). An integrated system allows collaboration between agencies to run better, so that the services provided to the community become faster and more precise. In addition, with integrated data, the government can more easily monitor and evaluate the performance of medical personnel. Prior to the existence of PSH Digital, the administrative management of medical personnel in Jombang Regency was carried out manually through the SIRINDUNONA application. This process takes longer and often causes complaints from health workers. However, after the existence of PSH Digital, the process has become simpler, faster, and more efficient. In its implementation, PSH Digital not only provides administrative services but also supports the improvement of digital literacy among medical personnel. Many of them, who were initially unfamiliar with technology, are now starting to master the use of digital platforms and feel the benefits in their daily work.

Socialization and training are an important part of the implementation of Digital PSH (Nurlaila, Zuriatin, and Nurhasanah 2024). The local government actively conducts various educational programs, such as the dissemination of infographics, video tutorials, and user manuals. In addition, they also provide a help center that can be accessed online or in person, so that medical personnel who are experiencing difficulties can immediately get a solution. PSH Digital also facilitates the collaboration process between medical personnel and the government. With an integrated system, various data such as competencies, permits, and work records of medical personnel can be accessed by relevant agencies in a short time. This allows the

government to conduct evaluations more effectively and quickly. In addition, this digital platform also supports better supervision of medical personnel's compliance in meeting applicable licensing standards. Through the online system, every medical professional can easily ensure that their documents and permits remain valid and up-to-date. The government can also quickly provide notifications if discrepancies or shortcomings are found in the administrative process.

Another advantage of PSH Digital is its ability to reduce geographical barriers. Medical personnel in remote areas can now access administrative services without having to travel long distances to government offices. This not only saves time and money, but also helps them to stay focused on health care in their area. The system is also designed to provide wider accessibility. Medical personnel only need an internet-connected device to access all available services. The platform is supported by advanced features such as single sign-on, automatic notifications, and real-time tracking of application status, making it easier for users in every administrative step. However, it is undeniable that system stability is still a challenge that needs to be overcome. Sometimes, technical glitches such as a down system or an unstable connection can hamper the administrative process. Therefore, the government continues to make technical updates and improvements to ensure that this platform can function optimally. In addition, data protection is also a major concern. In digital data management, security is a crucial factor that should not be ignored. Medical personnel's data, including their personal and professional information, must be kept from being misused. For this reason, PSH Digital is equipped with sophisticated security systems such as data encryption and strict activity monitoring.

PSH Digital also has a positive impact on the efficiency of human resource management in the health sector. With centralized and integrated data, the government can more easily plan for an even distribution of medical personnel throughout the region (Rambe et al. 2025). This is critical to addressing the healthcare gap between urban and rural areas. In its evaluation, PSH Digital in Jombang Regency was considered successful because it was able to improve the speed and quality of administrative services. Medical personnel not only get better service, but also feel supported by a system that makes their work easier. They can focus more on their main task, which is to provide health services to the community. The successful implementation of PSH Digital is also an inspiration for other regions to adopt a similar system. As part of the national program, PSH Digital is expected to be applied evenly throughout Indonesia to support the digital transformation of public services. In the future, further development of PSH Digital is still needed. Some of the proposals from medical personnel include the addition of new features, such as online consultation services and integration with other health systems such as telemedicine. By continuing to develop these features, PSH Digital has the potential to become a comprehensive solution that not only helps administration but also supports the improvement of overall health services.

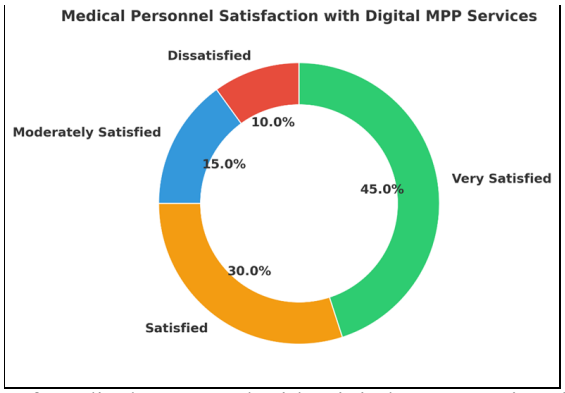

Figure 1. Satisfaction of Medical Personnel with Digital PSH Services in Jombang Regency
Source: Research Data Processed, 2025

This diagram shows the results of a survey on the satisfaction of medical personnel with the services of the Digital Public Service Hall (PSH Digital) in Jombang Regency. Bright colors distinguish four categories of satisfaction, namely Very Satisfied, Satisfied, Quite Satisfied, and Dissatisfied. Each section shows how many medical personnel are feeling the impact of this service. Most medical personnel feel very satisfied. They felt a big change in the way permits were managed, such as the Practice License (PL) and the Registration Certificate (STR). Previously, they had to wait a long time to take care of the documents. With PSH Digital, this process becomes faster and easier. They no longer need to come to the government office to take care of the administration. This saves time and effort, so they can focus more on their work serving patients. Some medical personnel are also satisfied even though not completely. They still feel the benefits of this digital service, but there may be some things that they feel can still be improved. For example, transparency in the licensing process that makes it easier for them to know the status of their applications directly. This convenience makes them not need to ask questions or wait for information from related parties. On the other hand, there are those who feel quite satisfied. They may feel that this service has helped, but it has not been maximized. Obstacles such as technical glitches, sometimes slow applications, or lack of training can be reasons why they feel that way. Some of them may also have difficulty in using digital applications, especially if they are not yet familiar with technology.

There are also medical personnel who feel dissatisfied even if it is only a small part. They face issues such as frequent system outages, poor internet connections, or lack of technical support. Some medical personnel, especially those working in remote areas, may face additional difficulties because not all places have adequate internet networks. There are also medical personnel who find it difficult because they are not used to using digital applications. Behind the high satisfaction, PSH Digital offers many benefits. This service makes document management faster. If previously the management took up to three days, now it only takes one day. Medical personnel can also access information directly, such as viewing the conditions and status of their applications. In addition, the administrative burden that previously felt heavy is now lighter because the process is no longer manual. However, it cannot be ignored that there are some challenges that need to be fixed. The application system needs to be more stable so that it does not experience frequent interruptions. Training for medical personnel who are not familiar with technology also needs to be improved. In addition, the guarantee of the security of medical personnel's personal data must be ensured so that they feel comfortable using this service. Overall, this diagram shows that PSH Digital services have had a positive impact on many medical personnel. Even so, there is still room for improvement. If all challenges can be overcome, this service has the potential to be better and beneficial for all medical personnel in the future.

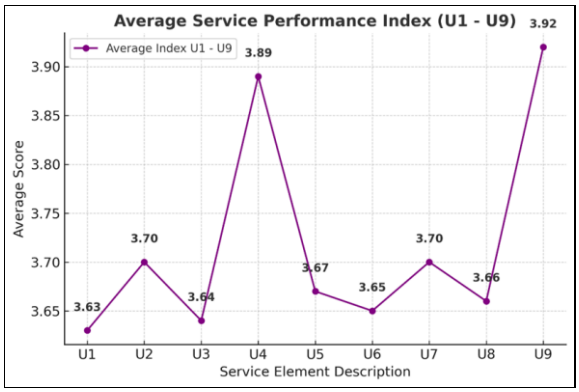

Figure 2. Average Performance Index of Medical Personnel and Health Workers in Jombang Regency

Source: Research data Processed, 2025

The elements U1 to U9 in the line diagram above are related to the implementation of PSH Digital in Jombang Regency:

U1 - Conformity of informed terms of service. This element assesses whether the service requirements that must be met by medical personnel are in accordance with the information provided through PSH Digital. The high rating shows that the communication regarding the requirements is effective enough, so users do not feel confused when applying for permission.

U2 - Ease of procedure. Clear and uncomplicated procedures are key to this element. With PSH Digital, medical personnel can apply for permits online, without having to go through lengthy administrative procedures like in previous manual services. The level of ease of carrying out this procedure directly affects user satisfaction.

U3 - Speed of procedure. The speed of the application process until the issuance of permits is an important part of the service evaluation. PSH Digital is designed to cut waiting times from a few days to just one day. A high value in this element indicates that medical personnel feel the direct impact of the acceleration of the licensing process.

U4 - Conformity of the settlement period with the information informed. This element assesses whether the promise of a settlement in a certain time is in accordance with the reality experienced by medical personnel. With a transparent digital system, users can monitor their application process in real-time, ensuring that services are completed on time.

U5 - Response speed of service system applications. The speed of response when accessing applications, opening pages, or uploading documents is a major concern in this element. This is important to avoid technical barriers that can slow down the licensing process, especially for medical personnel in areas with limited internet connections.

U6 - Ease of use of application features. This element assesses how friendly and easy the features in the PSH Digital application are used by medical personnel. A high score indicates that the app is designed in a user-friendly manner, even for medical personnel who may not be familiar with digital technology.

U7 - Quality of content/content of service system applications. Content quality includes clarity of information, completeness of data, and ease of understanding instructions. With clear and accurate information, medical personnel can avoid mistakes in the permit application process.

U8 - Suitability of service products between publication and reality. This element evaluates

whether the services provided are in accordance with what is published in the digital platform. This reflects the government's transparency in providing fair and non-misleading services.

U9 - Availability of facilities/media for consultation or complaints. Consultation and complaint facilities are an important part of ensuring that any obstacles faced by medical personnel can be overcome immediately. A high score on this element indicates that medical personnel feel well supported through features such as helpdesk and online help center.

The average value on the line chart can be seen that the implementation of PSH Digital in Jombang is quite effective in meeting the expectations of medical personnel, especially in terms of service speed, ease of procedures, and information transparency. While there are some technical challenges, as mentioned in the document, in general medical personnel are feeling significant benefits from this digital transformation. Based on the results of the research and linking it with George C. Edward III's Policy Implementation Theory which emphasizes four main factors in the success of policy implementation: communication, resources, disposition (implementation attitude), and bureaucratic structure can be explained:

Communication. Communication is the main key in conveying information to related parties (Salsabila et al. 2024). From the results of the evaluation of the implementation of PSH Digital in Jombang Regency, it can be seen that communication has been quite effective, especially in terms of delivering service information to medical personnel. This can be seen from the elements of the questionnaire such as U1 (conformity with informed requirements) and U9 (availability of media for complaints) which received a high average score (above 3.5). Medical personnel feel that information regarding requirements, procedures, and service status is clearly available and accessible through the application. However, there are several communication challenges that still need to be improved, such as more even socialization to medical personnel who are less technologically literate. Social media-based socialization, infographics, and training have been carried out, but some senior medical personnel still need special assistance in understanding this digital system.

Resources. Resources include technological infrastructure, support personnel, and user capacity in utilizing the system (Habibah, Habibah, and Anshori 2023). From the data obtained, Jombang Regency already has a fairly adequate technological infrastructure, such as an internet network and a data center. However, there are still some technical obstacles, such as unstable internet connections in some remote areas and systems that are still often disrupted or maintained. The availability of human resources is also a concern, especially in terms of technical support from SISDMK operators who assist medical personnel in filling in data. One of the challenges faced is the lack of IT experts to assist medical personnel, especially those who are elderly and unfamiliar with digital applications. The solution that has been implemented is the existence of helpdesk services and regular training. In addition, the implementation of integrated systems such as SISDMK and Satu Sehat is very helpful in simplifying data filling and permit applications, which previously required a lot of manual documents. This integration is a strategic step in supporting the success of digitalization.

Disposition (Implementing Attitude). Disposition is related to the attitude of policy implementers towards policy implementation (Handayani 2023). Here, medical personnel in Jombang Regency generally show a positive attitude towards PSH Digital. They are aware of the benefits

provided by this system, especially in terms of reducing administrative burden and speeding up the permit application process. Before the existence of PSH Digital, the application for permits could take up to three days. After digitization, this process can be completed in as little as one day, as mentioned in the performance evaluation results. The positive attitude of medical personnel can also be seen from the results of the satisfaction survey which shows a "very good" rating on service indicators. However, to maintain and improve this disposition, there needs to be a guarantee of system stability and data security. Concerns about data loss or misuse of personal data are still an issue that needs attention.

Bureaucratic Structure. A simple and integrated bureaucratic structure is the key to accelerating policy implementation (Suryani and Diniawaty 2024). PSH Digital in Jombang Regency has succeeded in reducing bureaucratic complexity by simplifying the flow of applying for permits through one platform. Prior to the implementation of PSH Digital, licensing services used the SIRINDUNONA application, which had a longer and more complicated process. Now, with PSH Digital, medical personnel only need to access one platform that has been integrated with the national system. This simple bureaucratic structure can be seen from questionnaire elements such as U3 (speed of procedure) and U4 (suitability of the completion period) which get high scores. This shows that PSH Digital is able to provide fast services, according to the promised time. However, improvements are still needed in terms of system stability to ensure that there are no technical obstacles that slow down the bureaucratic process.

Challenges and Solutions in the Adoption of Digitalization by Medical and Health Personnel in Jombang Regency

Digital transformation has become a key element in efforts to improve the effectiveness, efficiency, and quality of health services in various regions (Zulvikri and Amani 2024). In the context of empowering medical and healthcare workers, digital transformation not only provides tools to accelerate administrative processes, but also contributes to increasing the competence and capacity of individuals directly involved in health services. Digitalization provides medical personnel with wider access to information, training, and resources relevant to modern health practices. One of the main impacts of digital transformation is efficiency in data management and administration. Digital-based systems, such as Electronic Health Records (EHR), allow healthcare workers to manage patients' medical records quickly, accurately, and in an integrated manner (Mikraj and Fauzi 2024). This reduces the time previously spent on manual processes, so that medical personnel can focus more on patient service. In addition, integrated data management makes it easier to coordinate between health facilities, such as hospitals and health centers, in providing continuous services. In the long term, this supports better data-driven decision-making, both at the clinical and management levels.

Digital transformation also supports the empowerment of medical personnel through training and competency development (Iswandi and Kuswinarno, 2025). Online platforms, such as webinars, e-learning courses, and mobile-based apps, allow healthcare workers to improve their skills without having to leave the workplace. With access to flexible learning materials, medical professionals can learn new procedures, the latest clinical standards, and innovations in medicine more easily. These technological advances also help them stay relevant amid rapid changes in health science. In addition, digital approaches allow training to be tailored to local needs, so healthcare workers can apply new skills more effectively in their region. The context of empowerment includes that digital transformation also opens up opportunities for greater collaboration and integration between medical personnel, health agencies, and governments. Digital-based systems facilitate cross-sector communication, so healthcare workers can access information about new policies, licensing procedures, or updates related to incentives and facilities. For example, e-government platforms that

provide digital administration services allow the medical personnel licensing process to be carried out online, reducing bureaucratic obstacles that are often an obstacle. In addition, the development of applications specifically designed to support healthcare workers, such as immunization schedule reminder apps or evidence-based clinical guidance, improves their ability to provide quality services. However, the success of digital transformation in empowering medical personnel depends heavily on several supporting factors. First, digital literacy is the main challenge, especially among medical personnel who are not familiar with modern technology. Therefore, digital literacy training is an important step to ensure that all health workers can make optimal use of digital systems. Second, adequate technological infrastructure, such as stable internet access and appropriate hardware, is a prerequisite to support this transformation, especially in remote areas. Without good infrastructure, the benefits of technology will not be felt equally.

Regulatory and policy support also plays an important role in empowering health workers through digitalization (Utami et al. 2024). The government must ensure that the policies implemented support the development of an inclusive and sustainable system. For example, integrating technology in national health policies can encourage broader and structured implementation. In addition, regulations that support data security and patient privacy are important aspects in ensuring the trust of medical personnel and the public in digital systems. Digital transformation also has a significant social impact on the empowerment of medical personnel. With digital platforms, health workers have the opportunity to build a wider professional network, both at the national and international levels. Online forums, virtual communities, and social media allow them to share experiences, discuss medical cases, and find solutions together to the challenges they face. These networks not only strengthen individual capacities, but also encourage closer cross-institutional collaboration. In the long term, empowering medical personnel through digital transformation can improve the overall quality of health services. Medical personnel who are more competent, efficient, and connected will be able to provide services that are more responsive to the needs of the community. In addition, digital transformation can create a more inclusive health system, where all medical personnel, including those working in remote areas, have equal access to information, training, and resources. With the right policy support, investment in infrastructure, and increased digital literacy, digital transformation can be a key pillar in empowering medical personnel and improving the quality of public health of human resource management in the health sector.

The implementation of digitization of public services through the Digital Public Service Hall (PSH Digital) in Jombang Regency has brought many positive changes in terms of licensing management of medical and health personnel. However, as with any major transformation process, digitalization adoption also faces various challenges that need to be overcome with solutional steps. These challenges involve interrelated technical, human and infrastructure aspects. One of the main challenges in implementing PSH Digital is the lack of technological literacy among medical and health workers, especially those who are elderly. Many of them are not used to using digital systems to take care of administration or licensing (Nurlaila et al. 2024). This is a big obstacle, because medical personnel need to understand how to upload documents, fill out online forms, and monitor the status of their permit applications. When they have difficulty operating the system, the administrative process becomes hampered, and can even cause errors in filling in data or file completeness. This obstacle is exacerbated by the difference in technical capabilities between medical personnel in urban areas and those on duty in rural areas. In urban areas, internet infrastructure and supporting facilities are usually more adequate, while in rural areas, internet connections are often a problem. In fact, stable internet access is needed to run the PSH Digital system optimally. Healthcare workers in rural areas also often do not have adequate digital devices to access online services,

leading to them having to rely on third parties or operators to help them.

Other technical challenges include frequent system disruptions, such as slow applications or periodic maintenance (Asa and Rembu 2024). This is a big problem, especially when medical personnel are in the process of applying for urgent permits. This kind of technical glitch can delay the administrative completion time, which ultimately affects the performance of medical personnel in the field. Those who should be able to focus on providing services to patients must spend longer to complete administrative matters. In addition to technical constraints, the bureaucratic structure that has not been fully adaptive to digital changes is also a challenge. Although PSH Digital is designed to cut down on convoluted bureaucratic processes, in practice there are still some administrative obstacles. Some agencies involved in the licensing process are sometimes not fully integrated, requiring manual coordination that slows down the process. To face these challenges, several strategic solutions have been implemented in Jombang Regency. One of them is the provision of training and technical assistance for medical personnel who are not familiar with digital technology. This training is carried out periodically and involves medical personnel from various health facilities, ranging from hospitals to health centers. In addition, the local government also provides a helpdesk that is ready to help medical personnel if they experience technical problems while accessing PSH Digital. The existence of this help center allows medical personnel to get a quick solution without having to wait for a long time.

Massive socialization is also the key to accelerating the adoption of digitalization. The Jombang Regency Government is actively holding information campaigns through various media, such as social media, official websites, and mass media. They also disseminate user manuals in the form of infographics, video tutorials, and easy-to-understand how-to documents. With effective socialization, it is hoped that medical personnel will not only understand the importance of digitalization, but also be able to operate the platform with confidence. To overcome infrastructure constraints, local governments work closely with internet service providers to ensure stable connections in remote areas. They also strive to provide supporting devices, such as computers and tablets, in health facilities in need. This step is expected to increase the accessibility of medical personnel in remote areas to digital services. Another solution is to improve and improve the stability of the PSH Digital system. The government continues to conduct periodic evaluations of the system's performance to ensure that there are no recurring technical glitches. They also developed additional features, such as automatic notifications and real-time tracking of application status, which made it easier for medical personnel to manage their administration. With this update, it is hoped that the system will become more user-friendly and free from significant technical glitches.

Bureaucratic Context: The Jombang Regency government is committed to strengthening coordination between agencies through better data integration. PSH Digital is designed so that each agency involved in the licensing process can share data directly with each other, so that there is no need for a time-consuming manual process. In this way, the licensing turnaround time that used to take up to three days can be cut to just one day. In addition, medical personnel who are still experiencing technical or administrative obstacles are given special assistance. This assistance not only involves initial training, but also support during the permit application process. This approach ensures that every medical worker, both familiar with technology and those who are not, still gets optimal service. In the long term, the Jombang Regency government also plans to integrate PSH Digital with other digital systems in the health sector, such as telemedicine applications and monitoring the performance of medical personnel. With this integration, medical personnel are not only helped in terms of licensing, but also in providing better health services to the community. In terms of security, the government also ensures that the data of medical personnel stored in the PSH Digital system is well protected. They use encryption technology and strict security protocols to

prevent data leakage or misuse. This is important to build the trust of medical personnel in the digital systems they use.

Challenges in the adoption of digitalization can not only be solved with technical solutions alone. Collaboration between the government, medical personnel, and technology service providers is needed to ensure that this digital transformation runs smoothly (Firdaus, Tursina, and Roziqin 2021). Medical personnel are also expected to be proactive in learning and adopting new technologies, while the government must continue to listen to their input to make continuous improvements. The adoption of Digital PSH in Jombang Regency is a big step in reforming public services in the health sector. Although there are still many challenges faced, the efforts made so far have shown positive results. Medical personnel feel more helped in taking care of licensing administration, so that they can focus more on their main task in providing health services to the community. In the future, if these challenges can be overcome properly, then PSH Digital has the potential to become a model for other regions in implementing the digitization of public services. This success will not only have an impact on the health sector, but also on other sectors that require efficiency and transparency in public services. Digital transformation is not only about technology, but also how it is able to answer people's needs and improve their quality of life.

The implementation of the Digital Public Service Hall (PSH Digital) in Jombang Regency has shown significant success in reducing the administrative burden of medical personnel and speeding up the licensing process. This digital system facilitates access to services such as the application of Practice Permits (PL) and Registration Certificates (STRs) in just one day, which previously took up to three days. However, challenges such as uneven digital infrastructure and lack of technological literacy among medical personnel, especially in rural areas, are still obstacles. Communication in conveying information has been quite effective, but some medical personnel, especially senior ones, still need intensive training and mentoring. Human resources and supporting infrastructure, such as stable internet and digital devices, must be continuously improved so that the entire region can fully benefit from this system. The disposition of medical personnel to the system is quite positive, but it must be maintained by ensuring the stability of the system and the security of user data. Simple bureaucratic integration through one digital platform has accelerated services, but it needs regular updates to overcome technical obstacles that still often occur.

CONCLUSION

The implementation of Digital PSH in Jombang Regency has had a significant positive impact on the administrative efficiency of medical and health personnel. With digitalization, the licensing and administration process becomes faster, more transparent, and reduces the burden on the bureaucracy. However, obstacles such as uneven internet access and a lack of digital literacy among medical personnel, especially in remote areas, still need attention. In addition, system stability and data security are important aspects that need to be continuously improved. The success of the implementation of PSH Digital cannot be separated from effective communication, the involvement of medical personnel, and good inter-agency collaboration. If these technical and non-technical challenges can be addressed, PSH Digital has the potential to become a model of digital transformation in the health sector that can be replicated to other regions.

The government needs to improve digital infrastructure by strengthening internet networks in remote areas so that all regions have equal access to Digital PSH services. In addition, intensive training and mentoring for medical personnel, especially those who are less familiar with digital technology, must continue to be held regularly. The stability of the system should be strengthened by performing periodic maintenance and evaluation to prevent repeated technical failures. The technical help center or helpdesk should also be expanded to provide quick support for medical personnel facing obstacles. On the security side, the implementation of data encryption systems and activity monitoring must continue to be optimized to maintain user trust. Finally, the integration of PSH Digital with other

digital systems in the health sector such as telemedicine can provide wider benefits for the community.

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