

The Impact of Digital-Based Administration Systems on the Effectiveness of Student Services

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ABSTRAK

The development of digital technology has encouraged educational institutions to implement digital administration systems with the primary goal of improving the quality of services for students. However, this administrative digitization process has not been entirely smooth across schools, due to variations in staff membership, facility availability and relatively conventional work habits. This article aims to explore the extent to which digital administration systems influence the effectiveness of student services and to identify the challenges that arise during implementation. The research approach used was descriptive qualitative, utilizing observation, interviews and document review methods in schools already implementing digital administration services. The results revealed that digital administration systems have significant positive impacts, such as increased service speed, data accuracy, procedural transparency and increased student satisfaction. Furthermore, digitalization has also played a role in advancing the work culture of administrative staff and teachers, with more structured, efficient and data-driven processes. However, several challenges remain, including a lack of digital skills, uneven technological infrastructure, and lack of buy-in for change. Overall, digital-based administration systems have a positive impact on the effectiveness of student services. However, human resource capacity building, infrastructure strengthening and ongoing outreach are needed to optimize the benefits of digitalization.

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1. INTRODUCTION

Student administration is a comprehensive approach that addresses all aspects related to students, from admission preparation and guidance throughout their studies at school to graduation. Its primary goal is to create a conducive environment for effective teaching and learning. The success of an educational institution is largely determined by the effectiveness of its student management (Simbolon & Lestari, 2025). Furthermore, student administration encompasses the entire range of student management activities, from the time they are accepted to their graduation, both directly and indirectly. One of the most important aspects of this management is the new student admission process. It is emphasized that without new student admissions, schools would have no subjects to manage. This activity is part of student management planning and is a routine agenda implemented by schools (Harianto, 2024). The new student admission process plays a crucial role in both public and private schools, as the presence of new students enables an optimal and sustainable learning process.

The rapid advancement of information technology has been a key driver of the transition from ancient times to today's digital era. Indeed, completing any task requires considerable time, unlike the digital era, which allows for instant completion, even in a matter of seconds. Advances in digital technology integrated with telecommunications networks have ushered humanity into a new revolutionary phase. The combination of computer and telecommunications technology has brought significant changes to the realm of information systems. Through information systems, humans can gain access to a variety of needed information more

effectively and efficiently (Nugroho, 2024). Information systems play a crucial role in management control within an organization. This is because technology and digitalization significantly benefit various aspects of life, especially in the world of education (Haq et al., n.d.). The rapid development of information technology is changing the way educational institutions manage administration through digital management information systems. Information technology innovation has given rise to digital information management systems relevant to the world of education. In line with advances in information technology, these systems are increasingly popular as solutions for increasing efficiency and improving educational administration (Yohana et al., 2024).

The use of digital management information systems offers a simpler and faster way to manage various aspects of educational administration. For example, data on students, teaching staff, curriculum, finances, and teaching and learning activities becomes more structured. This allows educational institutions to access information in real time and increase the efficiency of various administrative processes, including managing student and teacher data, interrogating attendance, and managing finances (Putri et al., 2025). The implementation of digital-based administration offers significant benefits, particularly in reducing the duration of administrative tasks. Previously, activities such as student data collection or scheduling were time-consuming, but now, thanks to digital systems, everything can be done more quickly and accurately. This results in efficiency of time and energy, allowing greater focus on activities that generate added value. Digital management information systems offer various conveniences and accelerate the management of educational administration, including managing student data, teaching staff, curriculum, finances, and the teaching and learning process (Arsyad et al., n.d.).

The use of e-administration can also help improve the services users receive. Things like online registration, assignment submission, grade access, and communication between schools, parents, and students can be done more quickly and better documented. This may lead to greater student satisfaction. However, actual data does not clearly show that this directly improves student learning. Some studies suggest that increasing student satisfaction and speeding up administrative tasks can help students participate more in school activities. Other research suggests that investing heavily in technology does not necessarily lead to better student learning outcomes if the technology is not used effectively, implemented correctly, or monitored (Review, 2020).

Implementing digital-based administration faces real challenges: lack of internet and computers, lack of necessary skills, resistance to changes in work practices, and concerns about the security of personal information. Studies and firsthand experience show that the success of digital management depends not only on the availability of technology but also on school leaders, ongoing training, funding, and a plan that involves all parties involved. Methods such as comprehensive training courses, partnerships with technology companies, and the implementation of data security regulations are often suggested to overcome these barriers (Paine et al., 2025).

Furthermore, the use of digital management information systems helps minimize administrative errors. Automated data management and data saving can reduce the risk of human error, which in turn improves data quality and collection. This ensures more accurate and reliable decision-making based on administrative data. The implementation of digital management information systems also simplifies the work of administrative staff. These systems provide rapid access to information, enabling staff to complete tasks more effectively and efficiently (Laeliyah et al., 2025). Despite their significant positive potential, the implementation of digital management systems is not without challenges. Teachers' technological competencies and insights are still not uniform, and adequate facilities and infrastructure are not evenly distributed across all locations. As a result, technology utilization is less than optimal in school administration, particularly in areas with limited internet connections and digital devices.

The problem in this research is the gap between the enormous potential of digital administration systems and the reality in schools. Ideally, administrative digitization should accelerate, increase accuracy, and make educational services more transparent. However, in reality, these benefits have not been fully realized due to various obstacles, both structural, technical, and cultural. One major problem is the lack of preparedness of human resources (HR) in operating digital systems (Muhammad et al., 2024). Although modern administrative technology promises high efficiency, many teachers and administrative staff still lack digital skills. This lack of digital understanding prevents them from effectively using system features, resulting in service flows that do not meet expected digital standards and potentially lead to operational errors. Another fundamental problem is the uneven distribution of technological infrastructure across schools.

Not all schools have a stable internet connection, adequate computers, or a well-integrated information management system (Meningkatkan et al., 2025). This lack of infrastructure leads to inconsistent use of digital administration systems, often leading to service disruptions or a reversion to

manual methods. This uneven distribution of facilities is a major barrier to effective administrative digitization (Nugraha & Rochimat, 2025). Furthermore, reluctance to change is also a significant factor influencing the success of digital administration implementation. Most teachers and administrative staff feel more comfortable with traditional, long-established methods.

Manual work habits discourage employees from adapting to new technologies, resulting in slow and often ineffective digitalization processes. A work culture that does not yet support digital transformation hinders the optimal implementation of administrative innovation (Maulana & Ibrahim, 2025). In addition to human resource issues and resistance to change, other problems arise from conventional administrative practices, which are prone to errors and sometimes lead to delays. Manual data collection is highly susceptible to human error, such as misrepresentation, data duplication, or lost documents. Services also take longer, for example, when processing letters, searching for student data, or managing attendance.

Digitalization is expected to be a solution to address these issues; however, it is crucial to assess the extent to which digital systems are truly capable of improving the speed, accuracy, data security, and transparency of administrative services (Jurnal, 2025). Lack of understanding among students and parents is a barrier to adopting digital administration. Many students and parents do not yet understand how to open service applications, fill out bold forms, or use various features in the school information system. This limited insight makes it difficult for them to utilize digital systems, resulting in suboptimal services and a mismatch between system functions and user practices. This highlights the importance of more intensive communication strategies and training to ensure that digital services can be utilized optimally by all users (Implementasi et al., 2025).

Beyond simplifying administrative matters, how we handle technology purchases and truly see the results is crucial. Looking at technology spending in education during the pandemic, we often see significant spending, but no clear record of how the technology is being used or its impact. Some items are rarely used or their benefits are less visible, ultimately wasting money. Therefore, regulations supported by concrete purchasing data, performance benchmarks for digital-based administrative services, and transparent evaluation methods are needed so that investments in the digital world truly improve mutual services for students (Malang, 2024). Computer-based administrative systems can significantly improve student services by simplifying operations, increasing service availability, and making them more transparent.

However, this can only be achieved if the basic infrastructure is in place, human resources are sufficiently skilled, procurement is properly managed, data is secure, and usage is monitored and audited regularly. If a comprehensive plan (technology, human resources, and policies) is implemented, the use of computers for office work can significantly improve the quality of education (Haleem et al., 2022). The strategies designed to address this issue focus on increasing the capacity of teaching staff, strengthening the latest technology, and optimizing management within the school environment.

A crucial initial step in overcoming obstacles to implementing digital administration is enhancing the capacity of teachers and staff through a series of training sessions. In addition to improving human resource capabilities, the availability of adequate technological infrastructure is also a determining factor in the success of digital-based administration. To ensure that all digital administration processes run in line with established benchmarks, a comprehensive Standard Operating Procedure (SOP) is required that is easily understood by all staff. Digitizing administration requires not only the readiness of teachers and staff but also the understanding of students and parents, who are the recipients of services (Masa et al., 2024). To maintain the operational environment of digital administration, schools are required to establish an IT support unit tasked with handling technical issues, maintaining devices, updating applications, and regularly backing up data.

The purpose of this study is to evaluate the extent to which the implementation of a digital administration system can accelerate service processes in schools. Many administrative tasks, such as managing mail, searching for student information, recording attendance, and organizing documents, previously took considerable time when done manually. With digitalization, all of these processes can reportedly be completed more quickly and effectively. Therefore, this study seeks to provide a realistic picture of whether the implementation of digital administration truly accelerates service delivery, as reported by schools that have previously implemented it. This is in line with research findings that reveal that digitalization of administration can accelerate service delivery and increase time efficiency in daily administrative activities.

2. METHOD, DATA, ANALYSIS

This research used a descriptive qualitative approach, a method that seeks to provide an in-depth description of the implementation of a digital administration system in a school environment. This approach

allows for an understanding of how digital administration services operate, the responses of users (such as teachers, administrative staff, and students), and the extent of the digital system's impact on service performance. The qualitative method was chosen because it provides a comprehensive and natural illustration aligned with actual conditions, without any manipulation of circumstances.

The research was conducted at SMAN Ranah Pesisir. The subjects were teachers, administrative staff, and students. The data collection technique used was observation, with researchers directly observing digital administration activities within the school environment. This included activities such as recording student data, the flow of digital correspondence, and the electronic attendance system. These observations were conducted to understand how the system operates in the field, how active users are, and the efficiency of the digitized administrative processes. Interviews: Researchers conducted interviews with administrative staff, teachers, and several students. The purpose of these interviews was to obtain in-depth information about their experiences using the digital administration system, their opinions on the speed and compression of services, and any challenges that may arise during the system's implementation. The explanations from the speakers provide a comprehensive understanding of the impact of digitalization on services.

Data analysis was conducted following the steps of Miles and Huberman's qualitative analysis model, which includes three interrelated processes: 1. Data reduction by selecting essential points from observations and interviews, then grouping them into categories. This reduction process helps researchers focus on data relevant to the research objectives. 2. Data presentation, where the processed data is then systematically organized in narrative form. This data presentation aims to provide a comprehensive understanding of the state of digital services, compare how effective digital services are with previous manual systems, and highlight specific patterns that emerge from user experiences. Through this exploration, researchers can observe relationships between aspects such as speed, accuracy, and service satisfaction. 3. Drawing conclusions and verification. At this stage, researchers summarize the main research findings based on patterns and tendencies seen in the data. This conclusion drawing is done by reviewing the balance of information from various sources through source triangulation (teachers, staff, students). This stage ensures that the research results are valid, consistent, and able to accurately describe the state of administrative digitalization.

3. RESULT AND DISCUSSION

Result

The results of this study, conducted through direct observation, in-depth conversations with teachers, administrative staff, and students, and review of digital administration system files, indicate that the use of a digital administration system at SMAN Ranah Pesisir has had a significant impact on the quality of service for students. A key finding was a significant improvement in service speed, particularly in routine activities such as attendance recording, mail processing, and student data tracking. Previously, the manual system slowed down these processes due to the need to review physical documents and complex bureaucratic processes. However, with the digital system, all stages can be completed more quickly because data is automatically stored and can be searched within seconds. According to the researchers, many services that previously took tens of minutes are now completed in less than five minutes.

In addition to the increased processing speed, the study also found improved data accuracy. Administrative staff explained that the use of the digital system plays a significant role in reducing human error that often occurs during manual recording, such as input errors, file duplication, and even lost documents. This digital system features automatic validation and cloud storage, ensuring the security and ease of retrieval of all data. Student data management, previously prone to errors, can now be done more accurately, systematically, and structured. In an interview, an administrative officer revealed that there have been virtually no recording errors since the digital system was implemented.

Student satisfaction has also increased thanks to the digitalization of school administration. Most students interviewed found digital services more practical, responsive, and user-friendly. They no longer need to queue at the administration office, allowing them more time to study. The study also found a positive transformation in the work culture of teachers and administrative staff. They began to adapt to a more organized work system, following the school's standard digital procedures. Digitalization makes work more effective, with neat documentation, thus facilitating coordination between staff.

Although digitalization offers various conveniences, there are also several obstacles in implementing a digital-based administration system. A common obstacle is the uneven technical skills of teachers and administrative staff. Not all employees have the same digital skills, so some still struggle to use the system.

In terms of infrastructure, the study found that internet connections in schools are often unstable, hampering smooth service delivery. Furthermore, some staff are still reluctant to switch from manual to digital methods due to their familiarity with the old methods. The study also noted a lack of understanding among students and parents regarding the use of digital administration applications, which results in some services being suboptimal. This indicates that digitalization requires full support from all parties in the school so that its benefits can be fully felt.

Discussion

The results of this study demonstrate that the use of a digital technology-based administration system has had a significant impact on optimizing student services at SMAN Ranah Pesisir. The most striking change is the increased speed and efficiency of administrative procedures, confirming that digitalization accelerates the completion of school administrative matters. The use of an online management system significantly helps schools provide services much faster. This is evident in things like tracking attendance, requesting files, searching for information, and maintaining records. Everything runs faster because the online system can automatically perform tasks that were previously done manually repeatedly. These results align with Najar's statement that the use of online administration is an effective way to speed up services, reduce office work, and reduce waiting times (Najar et al., 2024). When schools provide services more quickly, this helps students learn and teachers teach, as students don't have to wait long for office tasks.

Entering information into a digital format also simplifies things like using online forms, automatically retrieving data, and having consistent ways of doing things. As shown (Putri et al., 2025), computer systems for handling information facilitate detailed access, enabling services to be provided anytime and anywhere. Studies conducted in real-world settings have shown that students can request assistance without having to go to the office, which shortens queues and reduces the workload for staff. This not only speeds up the process but also provides better, faster, and more helpful services that align with today's societal expectations. This improved service aligns with the notion of how well groups work, demonstrating that the use of technology can help information flow more freely and enable better choices. Therefore, the use of digital tools is more than just an aid to running things; it is a crucial part of running a school well, and it needs to be done correctly and effectively.

The main change found in this study was increased accuracy in the way information was handled. With the old paper system, recording errors often occurred due to fatigue, inaccurate checks, and data not being copied. However, switching to an online system facilitates automated checks and neat data storage. This aligns with findings that online information systems significantly reduce human errors and provide more reliable data for operational and decision-making.

With a digital-based system, schools can directly check information. For example, student attendance details can be summarized quickly, eliminating the need to manually search for them. Similarly, old letters or student files can be quickly located without the risk of loss or damage. Storing information in an online system also provides greater security because it eliminates the need for perishable paper copies (Nugraha & Rochimat, 2025). The proper use of digital-based data is crucial for school management. Good data helps schools develop more targeted plans, such as identifying students who frequently miss school, assessing student learning success, and providing data-driven reports to school administrators. Therefore, placing administrative tasks on computers not only improves service performance technically, but also strengthens decision-making because it is based on real data.

Research also shows that the use of digital tools for school management improves the clarity of school services. When students use digital tools, they can quickly see where their requests are in the process. This makes them feel less anxious and more confident in the school. Clarity is crucial in today's schools because it helps create a reliable, understandable environment focused on providing excellent service to the public. These findings align with those of (Simbolon & Lestari, 2025), which stated that digital service systems create user-friendly processes, significantly reducing the risk of errors, data changes, or incorrect details. Transparency also makes students feel more valued as service users, encouraging them to be more involved and responsible in their administrative tasks.

By being transparent, schools not only improve their services but also create stronger bonds with students and their families. They can easily understand how services are delivered, learn about their rights and responsibilities, and follow administrative steps without having to rely solely on school staff. This transparency through digital tools also helps achieve educational goals, which focus on mastering technology and helping students grow independently as they navigate the digital world.

The biggest change from digital transformation in office work is how the daily tasks of office workers and teachers have changed. Research shows that staff who used to handle paper documents are now

learning to use a more organized digital way of doing things. This not only speeds up work but also makes staff more professional, accurate, and better at collaborating.

The results of this study support the assertion (Maulana & Ibrahim, 2025) that moving education online changes the way people work, not just the tools they use. With the digital transformation, everyone in schools must become familiar with technology, understand new ways of doing things, and become better at using digital tools. This often faces resistance, especially from staff who have long worked with old methods.

Conversely, the use of digital technology in administration has a significant impact on how teachers and administrative staff carry out their daily tasks. Maulana and Ibrahim (2025) stated that the implementation of digitalization in education requires a transformation in work culture, including adaptation to technology, understanding new systems, and implementing digital-based operational standards. This study showed that some staff experienced significant changes in their work methods, particularly in terms of document management, reporting, and data validation, which are now more structured and standardized. These changes also encourage increased professionalism because all services are well-documented in the system and can be accounted for. In short, digitalization is not simply about replacing equipment; it is the establishment of a new, more modern, data-driven work culture.

However, this study also highlights the existence of obstacles, both technical and non-technical, that must be addressed for optimal digitalization. The most important obstacle is the varying levels of digital literacy among teachers, administrative staff, and students. These findings support the opinion of Muhammad and colleagues (2024), who stated that a lack of digital skills is a major stumbling block in the use of technology in education. This disparity in digital literacy makes it difficult for some users to use administrative applications, resulting in less than optimal service. Furthermore, this study shows that technological resources, such as internet connections and computer devices, are still inadequate. These findings align with the research of Nugraha & Rochimat (2025), which highlights that the success of cloud-based systems and digital applications is largely determined by network stability and the availability of supporting devices.

Another important aspect to consider is the resistance to change among some administrative and teaching staff. As noted by Maulana and Ibrahim (2025), resistance to digitalization often stems from long-established, conventional work routines perceived as more practical. This study revealed that some employees still prefer manual methods under certain circumstances, particularly when facing technical challenges or feeling unsure about digital systems. This indicates that the transition to the digital era requires not only tools and training but also a change management strategy that emphasizes mental readiness and corporate culture.

From what people said in interviews, some workers shared that they felt anxious or struggled to get used to the new system. (Muhammad et al., 2024) noted that this kind of thing often happens when things go digital, suggesting that people resist change because they fear mistakes, feel uncomfortable with the unknown, or lack the right technological skills. To address this, it's crucial to have ongoing support, a detailed training plan, and a manager who can provide assistance with technological issues and concerns.

Additionally, when office work goes digital, it makes work more organized because everything is stored online. Arguments between workers about how things should be done, which occurred with the old paper system, disappear because online tools ensure everyone does things the same way. This leads to consistent service, less need to rely on specific workers, and better teamwork across office groups.

Despite the positive aspects, research has shown that there are issues hindering the full adoption of online government work. The biggest issue is that some workers and teachers lack computer literacy. Not all government workers can easily navigate online systems. Therefore, many tasks are still performed manually, especially when people have difficulty understanding how certain things work. This idea is supported by (Haq et al., n.d.), who stated that teachers' computer skills remain a major challenge when transitioning to online learning.

Another problem is that not everyone has equal access to technology. Studies show that school internet access is unreliable, especially when multiple devices are used simultaneously. This complicates smooth service delivery and causes systems to become slow or unavailable. This finding is supported by findings (Terhadap et al., 2025), which indicate that problems with internet access and computer devices are major barriers to using technology for government tasks.

Another obstacle is the lack of effective information delivery to students and parents. Many students still lack understanding of administrative services using digital systems, requiring assistance when using them. Some parents, unfamiliar with technology, also struggle with digital verification or accessing their children's data. Similarly, Implementation and colleagues noted that the success of a digital system depends

heavily on the active participation of all users, including students and parents. This issue demonstrates that digitalization requires not only a robust system but also prepared people, supporting facilities, and the right way to communicate messages. Without these three elements, digitalization can yield less than optimal results or even revert to outdated methods.

Although research on the impact of the digital administration system at SMAN Ranah Pesisir has demonstrated various positive impacts, it still has several weaknesses in terms of method and background that must be considered when interpreting its conclusions. Initially, this research was limited to a single school, SMAN Ranah Pesisir, so the conditions, organizational turnover, and readiness of technological facilities were significantly influenced by the unique characteristics of that school. Factors such as internet network quality, staff technological expertise, work traditions, and long-standing manual administrative practices reflect the uniqueness of the research environment, which may differ significantly from other schools. Therefore, the results of this study are less widely applicable, as the findings may not necessarily be relevant to different educational settings.

A second limitation is the research strategy used, namely a qualitative descriptive method. This method was used to deeply understand the various experiences, opinions, and dynamics that emerged when the digital administration system was implemented. Data collection was conducted through direct observation, discussions with relevant parties, and review of various official school documents. While this method is unable to provide a comprehensive understanding of field conditions, it does not provide numerical data that can be used as a basis for objective assessments related to the changes that have occurred. For example, this study does not include statistical data on the reduction in service duration, the number of data errors before and after digitization, or how effective the service is when measured quantitatively. Due to the lack of numerical measurements, this study is only able to reflect the impact of digitization from a narrative perspective, without providing a statistical overview of the level of efficiency achieved. This is in accordance with the initial goal of designing the research method, namely to produce a complete and comprehensive description, not to test cause-and-effect relationships through quantitative or statistical measurements.

Furthermore, this study did not directly assess the impact of digitalization on student learning outcomes. While more efficient and accurate administrative services have the potential to enhance the learning experience, minimize waiting times, and expedite the collection of academic data, this study did not measure whether this impacted student grades, discipline, or engagement in learning. Several previous studies have shown that digital technology does not necessarily improve learning outcomes if it is not accompanied by appropriate utilization, human resource readiness, and sound management practices. However, this study did not examine this through empirical measurement analysis of student learning indicators, thus limiting the scope to the effectiveness of administrative services.

Another limitation that emerged was the differences in digital skills among teachers, education staff, and students. While this was recognized as a key finding in the study, it also impacted all data collected. Differences in digital technology mastery among participants could potentially influence how they measured the system's success, resulting in less consistent opinions and experiences. Some teachers or employees who are less proficient in digital systems may provide unfavorable or less detailed assessments, while more skilled employees will present more positive opinions. Consequently, data quality significantly influences each respondent's personal perspective and level of ease of use of technology.

Significant limitations also arise from uneven technological infrastructure, such as unstable internet connections and inadequate devices. This undoubtedly impacts the smoothness of data collection and the overall quality of digitalization. Frequent network disruptions during observations and interviews can disrupt the user experience, resulting in inaccurate assessments of the effectiveness of the digital administration system. Some employees even admitted to being forced to revert to manual methods when the system encountered problems, indicating that digitalization is not yet fully supported by conditions on the ground. Therefore, interpreting the effectiveness of digitalization must be done carefully, as its implementation has not yet been carried out under ideal conditions.

Overall, the results of this study demonstrate that the use of digital methods for school management is not simply about adopting new technology; it completely transforms the way education works. This comprehensive change includes better support, new ways of doing things, greater technological literacy, and giving students more say in how data is managed. Going digital also empowers schools to become learning spaces that can change, react, and keep pace with global technological developments.

When considering education today, digitalizing school management is a crucial step in creating an effective, accountable, and data-driven support system. Furthermore, the use of digital tools prepares

students for the online world, where knowledge of how to use online resources, understand how digital tools work, and manage data are essential skills for everyone.

4. CONCLUSION

From the results and discussion above, it can be concluded that the use of digital technology in administrative systems has significantly improved the quality of student services, particularly in terms of speed, precision, and efficiency in data management. Processes such as submitting letters, searching for data, and recording attendance are faster and more accurate than conventional methods. Implementing digital systems simplifies transparency and access to various services, allowing students to be more confident in the services provided, coordinate processes, and access data at any time without having to come to school. This has a positive impact on student satisfaction with the services provided by the school.

Digitalization has also transformed the way administrative staff and teachers work, making work processes more standardized, organized, and data-driven. Digital systems encourage increased responsibility and professionalism in service delivery. However, several obstacles arise during the implementation of digital systems, such as a lack of digital skills among teachers and staff, uneven technological infrastructure, reluctance to change, and a lack of outreach to students and parents. Digital-based administrative systems have a significant positive impact on student service performance. However, maximum efficiency can only be achieved if schools improve human resource capabilities, provide adequate infrastructure, and implement planned management changes.

Based on the above conclusions, it is recommended: Based on the research conducted, here are some suggestions that can be implemented by schools, government and related parties to optimize the performance of digital services. For Schools: Conduct regular training for teachers and administrative staff regarding the use of digital applications in administrative activities, develop clear SOPs (Standard Operating Procedures) so that all services run in a standardized and easy-to-understand manner, form a special team tasked with handling information technology (IT Support) in schools to minimize technical obstacles, perform regular data backups as a precautionary measure for data loss if a problem occurs in the system. For the Government or Education Office: provide adequate technological infrastructure, such as a stable internet network, computer devices and an integrated cloud system, organize digital mentoring and training programs that are evenly distributed to schools in all regions including remote areas, build an administration platform (integrated data system) so that schools do not need to repeatedly enter data into various applications.

For Teachers and Administrative Staff: improve understanding of digital literacy and readiness to face change, because the success of digitalization is largely determined by the quality of human resources, implement a proactive, accurate and responsive work ethic in providing digital-based services, optimize the use of digital data for decision-making, integrate student development and improve service quality. For Students and Parents: play an active role in learning and using digital services provided by the school, socialization or subsequent application usage guides to avoid errors when using the service and provide suggestions or feedback to the school for continuous improvement of the digital system.

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