Enhancing e-government in digital transformation: integrating records management and digital solutions in Pekanbaru, Indonesia

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Abstract

Efficient and modern archive management is very important in this digital era, especially at the local government level. In this context, this study explores the urgency of archive management using the Integrated Dynamic Archival Information System (SRIKANDI) approach in the Pekanbaru City Government. The research method used is qualitative, with data sources from interviews, documentation, and observation and analysis using the NVivo 12 Plus software. The study's results identified challenges to SRIKANDI implementation, including inadequate technological infrastructure, the need for skilled human resources in information technology, attention to data security, changes in organizational culture, and ongoing technical support. Based on these findings, policy recommendations have been made, including investments in technology infrastructure, human resource training and development, strict data protection, and changes in organizational culture. This research has positive implications for archive management, increasing efficiency and accountability in Pekanbaru. This research provides insights for other city governments wishing to undertake similar digital transformations in electronic-based archives management

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Introduction

Efficient and integrated archive management is urgently needed in modern digital governance (Huvila Isto, 2008; Permatasari et al., 2020). The government can increase transparency and accountability by maintaining and managing data and information well. The urgency also lies in maximizing data utilization in better decision-making, increasing bureaucratic efficiency, and producing more responsive and quality public services (Casadesús de Mingo & Cerrillo-i-Martínez, 2018; Netshakhuma, 2019). In addition, good records management is also a key step in maintaining the security and sustainability of information in the digital era, which is prone to challenges such as vulnerability to cyber threats (Kiran, 2015; Thompson et al., 2020). Therefore, careful and modern records management is the foundation for effective governance.

The digital era has changed how governments interact, and the Pekanbaru City Government is no exception (Freddy et al., 2022; Meiwanda, 2020). The development of information technology has brought various significant opportunities and challenges in integrating government digitally (Alharbi et al., 2021; W. Li, 2021). Implementing e-government or electronic government has become necessary (Baharuddin et al., 2022;

Rifaid et al., 2023). Pekanbaru, one of Indonesia's cities, is facing pressure to provide more efficient, transparent, and easily accessible services to its citizens via digital platforms. Many efforts are being made towards an integrated digital government (Gil-Garcia & Flores-Zúñiga, 2020; Janowski, 2015).

Towards an integrated digital government, various important efforts have been made. First is investment in strong technological infrastructure and stable internet access so that citizens can access public data and services quickly and easily (Malodia et al., 2021). Second, training and development of human resources regarding information technology is key. Government employees must have the knowledge and skills to operate digital systems efficiently (Janssen et al., 2018; Twizeyimana & Andersson, 2019). Third, strong data protection must be implemented to maintain the security of sensitive information (Alharbi et al., 2021; Y. Li & Shang, 2020; Mishra et al., 2021). Fourth, changes in organizational culture must be emphasized by encouraging acceptance of technology as a tool that improves efficiency and service to society (Barfi et al., 2023; Malodia et al., 2021).

The integrated digital government initiative is a proactive step governments take to create a comprehensive digital ecosystem, connecting various services, departments, and data in one platform. With this approach, the government can optimize the use of information technology to increase efficiency, effectiveness, and responsiveness in providing services to the public. Such initiatives involve building a strong digital infrastructure, supporting policies, and educating the public and bureaucracy using digital tools. With digital government integration, various data and services can be used together, enabling better decision-making and providing services that are more accessible and responsive to citizens' needs. This is an important step towards a government transformation that is more modern and adaptive to developments in information technology.

The importance of digital transformation in government has become a relevant topic of discussion in the scientific literature (Benjamin & Potts, 2018; Gong et al., 2020; Ibrahim et al., 2023). Several studies have shown that implementing e-government can increase efficiency, accountability, and citizen participation in government decision-making processes (Mergel et al., 2019). Moreover, the COVID-19 pandemic has accelerated the demand for online government services, making it even more urgent for Governments to adapt (Gabryelczyk, 2020). In addition, the digital government also enables the active participation of the people. It reduces bureaucracy, resulting in budget savings and faster problem-solving, making it an important asset in improving citizens' quality of life and government effectiveness (Yuan et al., 2023).

However, despite its potential benefits, the transformation to e-government is challenging. Previous research has identified some common problems that must be addressed in integrating digital services in the government sector. Among them are data security issues (Thompson et al., 2020), availability of digital infrastructure (Alrubaiq, 2021; Yang et al., 2018), lack of digital literacy among the public (Prianto et al., 2022), and resistance to change among the bureaucracy (Wirtz & Daiser, 2018). Considering these challenges, this study investigates the efforts that the Government of Pekanbaru City has made in dealing with the complexities of e-government and finding solutions to overcome existing obstacles, especially implementing the Integrated Dynamic Archival Information System (SRIKANDI). This research is important because it can provide practical guidance in implementing digital government and potentially become recommendations for other governments.

Countries in the Global South, such as Brazil, India and South Africa, have shown that adopting digital technology in local government can help overcome bureaucratic challenges. However, there are still several challenges that need to be addressed. In Brazil, the implementation of digital archive systems in local government has increased administrative efficiency and transparency, enabled more accessible and faster access to public information, and facilitated better decision-making (Melo & Rockembach, 2021). In India, the use of digital technology has enabled the provision of faster and more responsive services to citizens focused on providing robust technological infrastructure, human resource training, and data protection (Kumar et al., 2023; Sharma et al., 2021; A. M. Wu et al., 2020). Findings in South Africa are that challenges in providing widely accessible e-government services are caused by factors such as organizational structure and stakeholder support (Abdurahman & Kabanda, 2024; Adam, 2020; Singh, 2015).

Although digital government transformation has received wide attention in global research, research that is specifically in-depth on implementation at the local level, such as the Pekanbaru case with the Integrated Dynamic Archival Information System (SRIKANDI) regarding archive management, still needs to be completed. However, there is still some literature that is considered quite accommodating. First, archive management is an important process in storing, organizing, and maintaining the integrity of important data and documents in an organization or government (Kim et al., 2020; Putz et al., 2021). Second, digital governance at the local level brings about significant changes in the delivery of public services, accelerating transformation and efficiency at the city or district government level (Alvarenga et al., 2020; Yen, 2020). Third, general efforts made in the context of digital governance at the local level involve building adequate technological infrastructure, training government employees in digital literacy, and developing electronic service platforms (Isabella et al., 2024; Jia & Chen, 2022).

This research seeks to fill the gap in the literature related to digital government transformation at the local level, especially in the context of the implementation of the Integrated Dynamic Archival Information System (SRIKANDI) in Pekanbaru. Although there is much research on digital governance in general, studies that specifically explore the implementation of digital archive systems in city government still need to be completed. This research emphasizes the importance of archives management in maintaining the integrity of essential data and documents, as well as the role of technology in increasing the efficiency of public services. This research offers a significant contribution by providing practical guidance and relevant policy recommendations, which are not only valid for the Pekanbaru city government but can also be applied by other local governments facing similar challenges in implementing digital government.

This study aims to fill a research void in the context of digital government transformation in Pekanbaru, focusing on implementing the Integrated Dynamic Archival Information System (SRIKANDI). The three research questions explored in this study are mapped as follows. (1) How is the implementation of SRIKANDI in the Pekanbaru City Government? (2) What are the challenges faced in implementing the SRIKANDI? (3) What policy recommendations are needed to overcome these obstacles? The answers to these three questions provide practical guidance for local governments in overcoming obstacles and adaptive policies needed to increase the efficiency of public services and administrative transparency by relying on integrated digital governance.

Research Methods

The research method used in this study is a qualitative method, which allows researchers to understand in depth the context, process, and impact of implementing the Integrated Dynamic Archival Information System (SRIKANDI) in the Pekanbaru City Government. The qualitative is used because this method is more suitable for exploring the views, perceptions, and experiences of individuals involved in the implementation of SRIKANDI, as well as for understanding the complex dynamics of decision-making and interactions within the government environment.

The main data source in this research comes from in-depth interviews with key stakeholders, including government officials and employees involved in the implementation of SRIKANDI. These interviews provide in-depth insight into their views regarding the implementation process, the perceived benefits, and the challenges they experienced. In addition, data was also collected through analysis of documents related to SRIKANDI, such as existing technical documentation. Direct observation is used to understand how SRIKANDI is used in everyday contexts in the Pekanbaru City Government, including the operation of SRIKANDI. Details of the data analysis stages are seen in Figure 1.
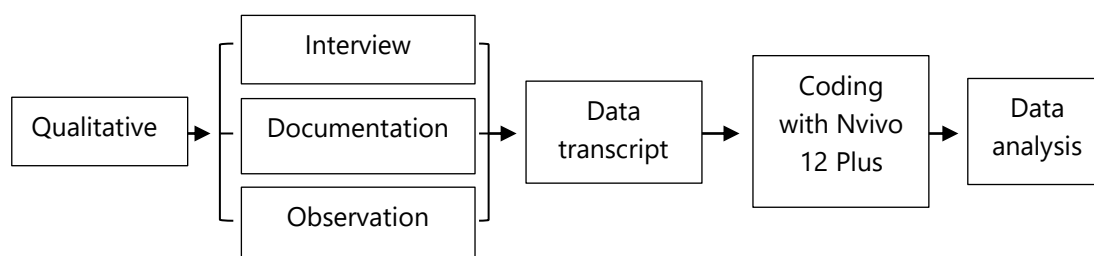
Figure 1. Data analysis steps
Source: processed by the researchers, 2024

This study use the NVivo 12 Plus software to analyze the qualitative data collected. NVivo is a powerful data analysis tool that systematically facilitates indexing, grouping, and text analysis of interview transcripts, documents, and field notes. By using NVivo, this study was able to identify patterns, themes, and relationships in qualitative data, thus enabling in-depth and contextual conclusions about the implementation of SRIKANDI in the Pekanbaru City Government. With this approach, this research is expected to contribute to filling the research gap on digital governance at the local level and provide relevant insights for government stakeholders in Pekanbaru and its surroundings.

Results and Discussion
Pekanbaru City Government: implementation of SRIKANDI and its challenges

Digital governance has become an integral part of government modernization efforts worldwide, bringing about significant changes in how governments interact with their citizens and manage information (Jia & Chen, 2022; Yuan et al., 2023). Amid this digital era, the Pekanbaru City Government, one of the largest cities in Indonesia, has yet to escape this transformation. One of the important initiatives in the context of digital transformation in Pekanbaru is the implementation of the Integrated Dynamic Archival Information System (SRIKANDI). SRIKANDI, an Integrated Dynamic Archival Information System application designed by the Government for all Central Agencies

and Local Governments, is very important in supporting efficient records management and electronic-based governance in Indonesia. This application is a step forward in increasing quality and accountability in records management, replacing conventional approaches with sophisticated digitization (Yunda et al., 2022).

With the ability to record, store, and manage information digitally, SRIKANDI helps increase bureaucratic efficiency and acts as the nation's collective memory by providing accurate and well-documented records. In addition, this application also opens up wider opportunities for coordination and collaboration between various levels of government, supporting the vision of a more connected and responsive government in this digital era. Implementing the Integrated Dynamic Archival Information System (SRIKANDI) in the Pekanbaru City Government begins with a series of steps, including technical guidance and subsequent actions. The following steps are carried out as in Figure 2.
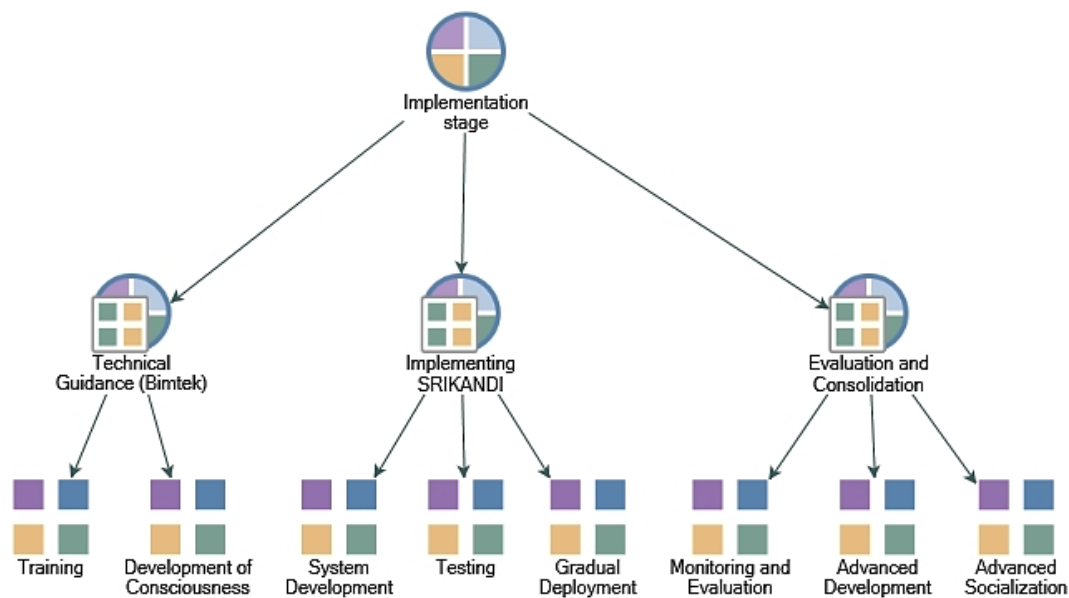
Figure 2. Stages of SRIKANDI implementation in Pekanbaru
Source: Processed by researchers with Nvivo 12 Plus, 2024

Implementing the Integrated Dynamic Archival Information System (SRIKANDI) in the Pekanbaru City Government began with a series of steps, including technical guidance, application of Sri Kandi, evaluation, and stabilization. The crucial first step in this implementation is technical guidance. The training held is a solid foundation for preparing staff who will be involved in using SRIKANDI. This training will teach staff about software operations, data management, and important data security policies and practices. In addition, an awareness campaign that involves all employees is a strategic step to change the organizational culture. This process should be taken seriously because changing how it works and thinks in an organization requires strong awareness and commitment from all staff.

In general, the benefits of Technical Guidance include increasing staff competency and skills in using new technology or systems, better understanding of related procedures and policies, and increasing work efficiency and effectiveness. technical guidance also helps reduce operational errors through practical training, strengthens data security by introducing best practices, and facilitates faster adaptation to technological and system changes within the organization. In addition, technical guidance can increase staff motivation and self-confidence, as well as support the

successful implementation of new programs or projects through the alignment of understanding and capabilities at all levels of the organization (Sinulingga & Zulkarnain, 2023; Suhri Kasim et al., 2022).

The next step is the implementation of SRIKANDI. Developing a system that fits the special needs of the Pekanbaru City Government is the key to success. This development includes integrating data from various sources, such as administrative, financial, and public data, to create valuable unified information. In addition, the system must be able to manage access rights carefully to maintain data security. Thorough pre-launch testing is an important step to ensure the system functions as planned. Phased deployment is a wise approach to minimizing risk and identifying potential issues at an early stage. In this process, some departments or units may pioneer using SRIKANDI before involving the whole organization.

After launch, the evaluation and stabilization phase becomes important. Continuous monitoring of SRIKANDI's performance will help identify problems and potential improvements. Continuing development is a response to evaluation findings and changing organizational needs. Continuous improvement must become a culture in SRIKANDI management. Follow-up outreach is also important to ensure understanding and ongoing support from all staff and the community. Effective communication about the benefits achieved and progress made will help maintain high levels of satisfaction and participation. In this process, it is important to understand that implementing SRIKANDI is not an end goal but a continuous journey to realizing a more efficient, transparent, and responsive government in the Pekanbaru City Government. Challenges will always exist, but with a careful approach, careful monitoring, and strong commitment, the benefits of SRIKANDI can become a sustainable reality for the people of Pekanbaru.

Evaluation is a systematic process used to assess the effectiveness and efficiency of a program, system, or policy after its implementation (Gupta & Jana, 2003; Pérez-Morote et al., 2020). In implementing an information system such as SRIKANDI, evaluation includes an assessment of the extent to which the initial objectives have been achieved, how the system functions in practice, and the impact of the system on organizational operations. The evaluation process involves collecting data through various methods such as surveys, interviews, and quantitative and qualitative data analysis. This data is analyzed to identify implementation successes, errors, or problems. Evaluation also helps identify areas that need improvement and provides recommendations for system adjustments or improvements. By conducting evaluations, organizations can ensure that the system implemented provides the expected added value and meets user needs effectively.

Consolidation is the stage where the evaluation results are used to strengthen and improve the systems implemented to ensure full and sustainable integration into the organization's operations. During the consolidation phase, organizations address issues identified during the evaluation, such as fixing bugs, adjusting features, or improving user support. Consolidation also includes reaffirming standard operating procedures, additional training for staff, and upgrading technical infrastructure where necessary (Carril & Duggan, 2018; Pacagnella et al., 2020). At this stage, the system is integrated more deeply into the organization's culture and work routines, ensuring all users feel comfortable and can use the system efficiently. With effective consolidation, organizations can achieve operational stability, increase productivity, and ensure that newly implemented systems provide optimal long-term benefits.

The implications of the findings from the implementation of SRIKANDI in the Pekanbaru City Government show that the stages of technical training, implementation, evaluation and consolidation have a crucial role in the success of this system. Technical guidance works to improve staff skills and motivation. At the same time, careful implementation with pre-launch testing and gradual deployment ensures that the system can meet the organization's specific needs and manage access rights securely. Evaluation and consolidation are then used to assess system effectiveness, identify problems, and improve the system to suit the organization's needs better. This process emphasizes that the implementation of SRIKANDI is not an end goal but rather a continuous journey towards a more efficient and transparent government.

However, like many implementations of technology in government, SRIKANDI in Pekanbaru also faces several challenges, ranging from technical to cultural changes in the bureaucracy. This study succeeded in mapping out these challenges, which can be seen as follows in Figure 3:
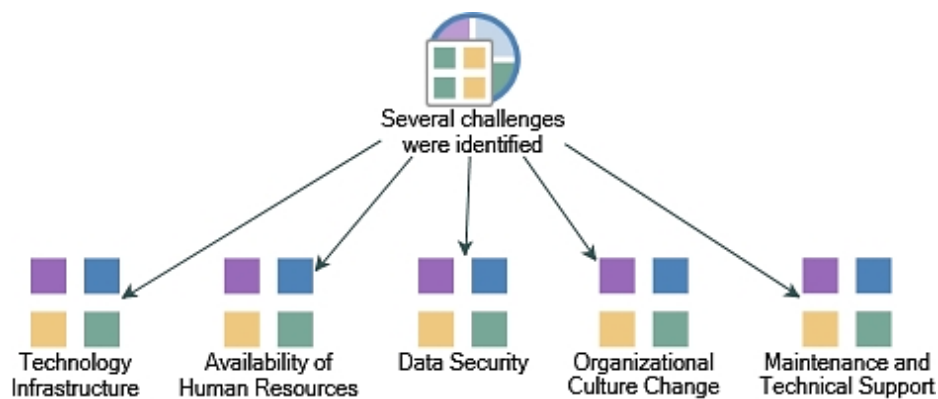
Figure 3. Challenges in implementing SRIKANDI in Pekanbaru
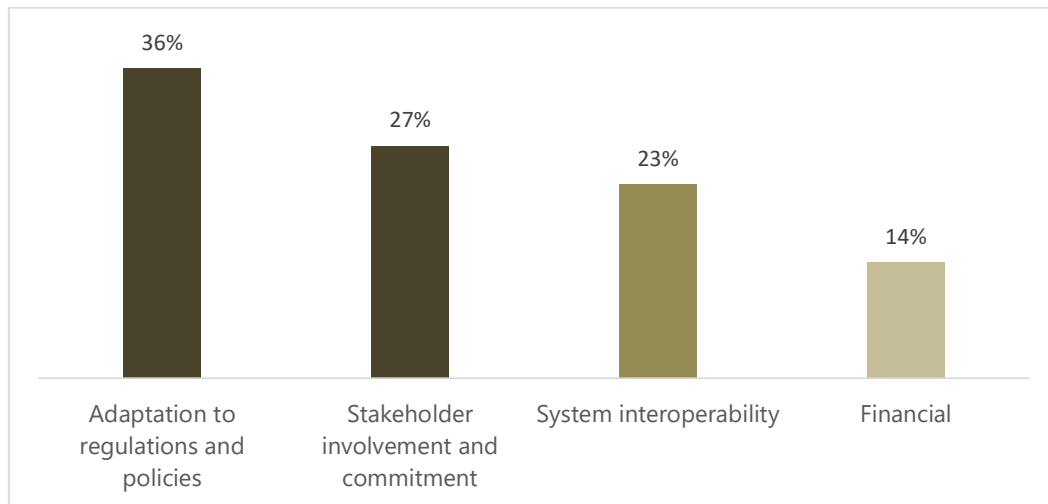*Source: processed by researchers with Nvivo 12 Plus, 2024*

Implementing the Integrated Dynamic Archival Information System (SRIKANDI) at the Pekanbaru City Government is a bold step in facing the era of digital government. While full of potential, this transformation comes with significant challenges. One of the main challenges is the technological infrastructure that needs to be fully mature. Unstable internet access and inadequate hardware can be obstacles to running SRIKANDI efficiently. To overcome this challenge, investing in improving the technology infrastructure that can optimally support this system is necessary.

In addition, the availability of skilled human resources in information technology is an important factor in the successful implementation of SRIKANDI. Maintaining and developing a system like SRIKANDI requires a competent and knowledgeable team who can manage, understand, and adapt this technology effectively. Therefore, intensive training and personnel recruitment with adequate technical understanding must be prioritized. Another challenge is related to data security issues. Data security must be addressed in managing sensitive and important records. Data protection from cyber threats and data security breaches must be a top priority in SRIKANDI implementation. There needs to be a strong security strategy to protect the data and information managed by this system.

In addition, digital transformation also requires cultural changes within the organization. These changes include overcoming resistance to change, increasing openness in sharing information, and encouraging a more proactive attitude towards innovation among government staff (Burchardt & Maisch, 2019; Nadkarni & Prügl,

2021). An organizational culture that supports change and innovation will be key in facing this challenge. Lastly, continuous maintenance and technical support will be required after the launch of SRIKANDI. Ensuring that the necessary resources and expertise are in place to maintain the smooth operation of these systems is critical. Good maintenance will enable SRIKANDI to function optimally in the long term.

With a clear awareness of these challenges and strong commitment from all stakeholders, the City Government of Pekanbaru can overcome these obstacles and reap the full benefits of SRIKANDI. This transformation will bring about positive changes in the management of archives and public services, supporting the vision of a more advanced and responsive government in this digital era. Apart from the challenges above, there are other challenges outlined in Figure 4.

Figure 4. Another challenge in implementing SRIKANDI in Pekanbaru
Source: processed by researchers with Nvivo 12 Plus, 2024

Several other challenges were found based on the analysis of word frequency queries in Nvivo 12 Plus. Apart from the challenges that have been identified, the implementation of the Integrated Dynamic Archival Information System (SRIKANDI) in the Pekanbaru City Government also faces several other significant challenges. First, the problem of adapting regulations and policies is one of the main obstacles. New systems often require changes or adjustments in existing regulations and policies. This includes policies on records management, information security standards, and operational procedures that need to be adapted to the new capabilities and functions offered by SRIKANDI. This process can be time-consuming and often requires approval from multiple levels of bureaucracy, which can slow implementation and reduce the system's effectiveness if handled poorly.

Second, stakeholder involvement and commitment are other important challenges. Implementing new technologies such as SRIKANDI requires full support from all stakeholders, including government leaders, department managers, and operational staff. One party's lack of commitment or resistance can hinder the implementation process. To overcome this, there needs to be an effective and inclusive communication strategy that can explain the long-term benefits of this system, as well as a participatory approach that involves all stakeholders in the decision-making process.

Third, system interoperability is a technical challenge that should be addressed. SRIKANDI needs to interact with various other information systems within the Pekanbaru City Government. This includes data management systems, administration

applications, and internal communications platforms. Without good interoperability, these new systems can create data silos and reduce operational efficiency. Therefore, careful integration efforts must ensure that SRIKANDI can function harmoniously with the existing technological infrastructure. Fourth, the financial aspect should be addressed. Developing, implementing, and maintaining a system like SRIKANDI requires significant investment. In addition to the initial costs for hardware and software, there are ongoing costs for training, technical support, and system updates. The Pekanbaru City Government needs to ensure an adequate and sustainable budget to support the operation of this system in the long term. With adequate financial support, the sustainability and success of these systems could be protected.

In summary, implementing the Integrated Dynamic Archival Information System (SRIKANDI) in the Pekanbaru City Government faces many significant challenges beyond those initially identified. This includes adjusting regulations and policies that require changes to existing procedures and standards. Stakeholder involvement and commitment require effective communication and participatory decision-making to ensure full support. Technical challenges such as system interoperability must be overcome to integrate SRIKANDI with existing technologies. The financial aspect is also very important because the development, implementation, and maintenance of SRIKANDI requires a large and sustainable investment. Effectively resolving these challenges is critical to the successful and sustainable operations of SRIKANDI, which will ultimately improve records management and public services in Pekanbaru.

Policy recommendations are needed

Digital transformation has been on the agenda of many governments worldwide, including locally. In Pekanbaru, an ambitious initiative in the form of an Integrated Dynamic Records Information System (SRIKANDI) has been introduced by the Government to modernize records management and governance. However, the journey of SRIKANDI implementation takes work. Complex and multifaceted challenges have emerged, requiring serious attention and careful solutions. In this context, this paper will outline the urgency of digital transformation at the local level, describe SRIKANDI as a key initiative, analyze the challenges faced in its implementation, and offer views on the importance of appropriate research and policies to overcome these obstacles.

Digital transformation at the local level has quite a crucial urgency. City government like Pekanbaru is the layer closest to its citizens and has an important role in providing efficient and responsive public services. In an era where information technology has changed how we interact, work, and access information, city governments must adapt to stay relevant. Digital transformation allows city governments to improve bureaucratic efficiency. SRIKANDI, as an Integrated Dynamic Archival Information System application designed by the Pekanbaru City Government, is one of the important milestones in efforts towards digital transformation at the local level. It is a tool designed to change how governments manage, store, and access data and records. By providing a platform for efficient records management and information integration between government units, SRIKANDI promises to bring about positive changes in municipal governance. However, the challenges that arise during its implementation must be addressed.

The main challenges faced in implementing SRIKANDI include inadequate technological infrastructure, the need for human resources skilled in information technology, attention to data security, changes in organizational culture, and ongoing

technical maintenance and support. This challenge is important to understand the complexity of digital transformation at the local level and formulate appropriate steps to overcome it. To overcome these challenges and maximize SRIKANDI's potential, in-depth research and smart policy development are needed. This will enable the Pekanbaru City Government to address obstacles that may arise during this implementation journey and provide better guidance on maximizing the benefits of digital transformation at the local level.

In facing the challenges of implementing SRIKANDI and digital transformation at the local level, in-depth research has a very important role. This research can provide deeper insight into the specific dynamics occurring in Pekanbaru, identify unique obstacles, and precisely measure the impact of this transformation. Research can also assist in developing appropriate strategies and solutions that can be implemented in the local context. Moreover, the development of appropriate policies is key to addressing these challenges. The Pekanbaru City Government needs to formulate policies to improve technological infrastructure, develop human resources, protect data, change organizational culture, community participation, and accurate impact measurement. Good policies must consider local context and focus on long-term outcomes.

Digital transformation at the local level, as manifested in implementing SRIKANDI in Pekanbaru, is an important step towards a more efficient and responsive government in this digital era. However, the challenges faced should be addressed. With in-depth research and intelligent policy development, the Pekanbaru City Government can overcome these obstacles and achieve positive changes in managing archives and public services at the city level. This is not only important for Pekanbaru but is also an example of how digital transformation can impact local governments around the world. In order to overcome the complex challenges that emerged during the implementation of SRIKANDI in Pekanbaru and to maximize the benefits of digital transformation at the local level, it is essential to develop policy recommendations that focus on concrete solutions. First, the Government of Pekanbaru City must prioritize investing in strong and reliable technology infrastructure. This includes providing stable internet access and adequate hardware across government units. Budget policies supporting these investments will be key to a successful digital transformation.

Policies also need to focus on developing skilled human resources in information technology. Training and development of government staff in using SRIKANDI and related technologies is essential. Structured training programs should be introduced, and incentives to encourage innovation among government staff should be considered (Mensah et al., 2020; Savoldelli et al., 2014). In addition, strong policies related to data security must be established. Protection against cyber threats and strict data security policies must be implemented and strictly enforced (Pleger et al., 2021; Y. Wu, 2014). Changes in organizational culture must also be empowered through policies that support changes in the bureaucratic work paradigm from traditional to more proactive and innovative in facing technological changes (Chen & Aklikokou, 2020). In addition, accurate and effective impact measurement must also be an integral part of policy, with the development of appropriate metrics and sophisticated monitoring systems to measure the efficiency and effectiveness of SRIKANDI and its benefits for government and society. With careful policy implementation, the Pekanbaru City Government will be able to overcome the obstacles that arise during the implementation journey of SRIKANDI and reap the full benefits of digital transformation at the local level.

Careful implementation of the policies and recommendations that have been explained will have positive implications for archive management in Pekanbaru. With SRIKANDI functioning optimally and a strict data protection policy, archive management will become more efficient and secure. Data and information stored in digital form will be easier to access, search, and manage (Cohen, 2018; Palareti et al., 2016). In addition, policy-supported organizational culture transformation will encourage government employees to adopt more modern and effective records management practices (Garaba, 2015). This will create a strong foundation for good records management, increasing accountability, transparency, and better services to citizens. Thus, the implications for archive management will have a significant positive impact in the context of digital transformation in Pekanbaru.

Conclusion

Digital transformation allows city governments to achieve these goals better, increase bureaucratic efficiency, and create a competitive environment in the digital era. In the process of implementing SRIKANDI, several important findings emerged. First, adequate technological infrastructure, skilled human resources, strong data protection, organizational culture change, and ongoing technical support are key elements that must be taken seriously. These challenges are technical and include organizational and cultural aspects that must be addressed with care. To address these challenges, appropriate policy recommendations are needed. This includes investment in technology infrastructure, training and development of human resources, attention to data security, organizational culture change, community participation, and accurate impact measurement. Good policies must be adapted to the local context and focus on long-term results.

In addition, careful policy implementation will positively impact records management. Data and information stored in digital form will be easier to access, search for, and manage. Organizational culture transformation will encourage more modern and effective records management practices. This will increase accountability, transparency, and better service to citizens, creating a strong foundation for good records management. Thus, the implementation of SRIKANDI and digital transformation in Pekanbaru not only has a technical impact but also changes the way city governments manage their information. With proper planning, policy development, and implementation, the Pekanbaru City Government can maximize the potential of this digital transformation for the good of its citizens and a brighter future.

References

Abdurahman, S., & Kabanda, S. (2024). Factors influencing the design and implementation of accessible e-Government services in South Africa. *Electronic Journal of Information Systems in Developing Countries*, 12317. https://doi.org/10.1002/isd2.12317

Adam, I. O. (2020). Examining E-Government development effects on corruption in Africa: The mediating effects of ICT development and institutional quality. *Technology in Society*, *61*, 101245. https://doi.org/10.1016/j.techsoc.2020.101245

Alharbi, A. S., Halikias, G., Rajarajan, M., & Yamin, M. (2021). A review of effectiveness of Saudi E-government data security management. *International Journal of Information Technology*, *13*(2), 573–579. https://doi.org/10.1007/s41870-021-00611-3

Alrubaiq, A. (2021). Developing a Cybersecurity Framework for e-Government Project in

the Kingdom of Saudi Arabia. *Journal of Cybersecurity and Privacy*, *1*(2), 302–318. https://doi.org/https://doi.org/10.3390/jcp1020017

Alvarenga, A., Matos, F., Godina, R., & Matias, J. C. O. (2020). Digital transformation and knowledge management in the public sector. *Sustainability (Switzerland)*, *12*(14), 5824. https://doi.org/10.3390/su12145824

Baharuddin, T., Qodir, Z., & Loilatu, M. J. (2022). Government Website Performance During the COVID-19 Pandemic: Comparative Study of Yogyakarta and South Sulawesi, Indonesia. *Journal of Governance and Public Policy*, *9*(2), LAYOUTING. https://doi.org/10.18196/jgpp.v9i2.11474

Barfi, K. A., Imoro, O., Arkorful, V., & Armah, J. K. (2023). Acceptance of e-library and support services for distance education students: Modelling their initial perspectives. *Information Development*, 1–13. https://doi.org/10.1177/02666669221150426

Benjamin, K., & Potts, H. W. (2018). Digital transformation in government: Lessons for digital health? *Digital Health*, *4*, 205520761875916. https://doi.org/10.1177/2055207618759168

Burchardt, C., & Maisch, B. (2019). Digitalization needs a cultural change – examples of applying Agility and Open Innovation to drive the digital transformation. *Procedia CIRP*, *84*(March), 112–117. https://doi.org/10.1016/j.procir.2019.05.009

Carril, R., & Duggan, M. (2018). the Impact of Industry Consolidation on Government Procurement : *Nber Working Paper Series*.

Casadesús de Mingo, A., & Cerrillo-i-Martínez, A. (2018). Improving records management to promote transparency and prevent corruption. *International Journal of Information Management*, *38*(1), 256–261. https://doi.org/10.1016/j.ijinfomgt.2017.09.005

Chen, L., & Aklikokou, A. K. (2020). Determinants of E-government Adoption: Testing the Mediating Effects of Perceived Usefulness and Perceived Ease of Use. *International Journal of Public Administration*, *43*(10), 850–865. https://doi.org/10.1080/01900692.2019.1660989

Cohen, M. C. (2018). Big Data and Service Operations. *Production and Operations Management*, *27*(9), 1709–1723. https://doi.org/10.1111/poms.12832

Freddy, H. T. R., Achmad, W., & Nasution, M. S. (2022). The Effectivity Of Public Services Based On Smart Goverment In Bukit Raya Distric Pekanbaru City. *Journal of Governance*, *7*(1), 239–259. https://doi.org/10.31506/jog.v7i1.14557

Gabryelczyk, R. (2020). Has COVID-19 Accelerated Digital Transformation? Initial Lessons Learned for Public Administrations. *Information Systems Management*, *37*(4), 303–309. https://doi.org/10.1080/10580530.2020.1820633

Garaba, F. (2015). Dodos in the archives: rebranding the archival profession to meet the challenges of the twenty-first century within ESARBICA. *Archives and Records*, *36*(2), 216–225. https://doi.org/10.1080/23257962.2015.1030609

Gil-Garcia, J. R., & Flores-Zúñiga, M. (2020). Towards a comprehensive understanding of digital government success: Integrating implementation and adoption factors. *Government Information Quarterly*, *37*(4), 101518. https://doi.org/10.1016/j.giq.2020.101518

Gong, Y., Yang, J., & Shi, X. (2020). Towards a comprehensive understanding of digital transformation in government: Analysis of flexibility and enterprise architecture. *Government Information Quarterly*, *37*(3), 101487. https://doi.org/10.1016/j.giq.2020.101487

Gupta, M. P., & Jana, D. (2003). E-government evaluation: A framework and case study.

Government Information Quarterly, *20*(4), 365–387. https://doi.org/10.1016/j.giq.2003.08.002

Huvila Isto. (2008). Participatory archive: towards decentralised curation, radical user orientation, and broader contextualisation of records management. *Archival Science*, *8*(1), 15–36.

Ibrahim, A. H. H., Baharuddin, T., & Wance, M. (2023). Bibliometric Analysis of E-Government and Trust : A Lesson for Indonesia. *Jurnal Borneo Administrator*, *19*(3), 269–284. https://doi.org/10.24258/jba.v19i3.1303

Isabella, Alfitri, Saptawan, A., Nengyanti, & Baharuddin, T. (2024). Empowering Digital Citizenship in Indonesia : Navigating Urgent Digital Literacy Challenges for Effective Digital Governance. *Journal of Governance and Public Policy*, *11*(2), 142–155. https://doi.org/https://doi.org/10.18196/jgpp.v11i2.19258

Janowski, T. (2015). Digital government evolution: From transformation to contextualization. *Government Information Quarterly*, *32*(3), 221–236. https://doi.org/10.1016/j.giq.2015.07.001

Janssen, M., Rana, N. P., Slade, E. L., & Dwivedi, Y. K. (2018). Trustworthiness of digital government services: deriving a comprehensive theory through interpretive structural modelling. *Public Management Review*, *20*(5), 647–671. https://doi.org/10.1080/14719037.2017.1305689

Jia, K., & Chen, S. (2022). Global digital governance: paradigm shift and an analytical framework. *Global Public Policy and Governance*, *2*(3), 283–305. https://doi.org/10.1007/s43508-022-00047-w

Kim, T. H., Kumar, G., Saha, R., Rai, M. K., Buchanan, W. J., Thomas, R., & Alazab, M. (2020). A privacy preserving distributed ledger framework for global human resource record management: The blockchain aspect. *IEEE Access*, *8*, 96455–96467. https://doi.org/10.1109/ACCESS.2020.2995481

Kiran, N. S. K. R. (2015). Program : electronic library and information systems Article information : *Electronic Library and Information Systems*, *49*(3), 266–288.

Kumar, R., Sachan, A., & Mukherjee, A. (2023). Adoption of e-government services at different maturity levels: a qualitative study in India. *Digital Policy, Regulation and Governance* , *25*(1), 15–39. https://doi.org/10.1108/DPRG-09-2021-0116

Li, W. (2021). The role of trust and risk in Citizens' E-Government services adoption: A perspective of the extended UTAUT model. *Sustainability (Switzerland)*, *13*(14), 7671. https://doi.org/10.3390/su13147671

Li, Y., & Shang, H. (2020). Service quality, perceived value, and citizens' continuous-use intention regarding e-government: Empirical evidence from China. In *Information and Management* (Vol. 57, Issue 3). Elsevier. https://doi.org/10.1016/j.im.2019.103197

Malodia, S., Dhir, A., Mishra, M., & Bhatti, Z. A. (2021). Future of e-Government: An integrated conceptual framework. In *Technological Forecasting and Social Change* (Vol. 173). Elsevier. https://doi.org/10.1016/j.techfore.2021.121102

Meiwanda, G. (2020). Challenges of Smart City: Local Government in Pekanbaru City and Community. *Annual Conference of Indonesian Association for Public Administration (IAPA 2019) Challenges*, *122*, 40–53. https://doi.org/10.2991/aebmr.k.200301.003

Melo, J. F., & Rockembach, M. (2021). International Initiatives and Advances in Brazil for Government Web Archiving. *2nd EAI International Conference on Data and Information in Online Environments, DIONE 2021*, 83–95. https://doi.org/10.1007/978-3-030-77417-2_6

Mensah, I. K., Zeng, G., & Luo, C. (2020). E-Government Services Adoption: An Extension of the Unified Model of Electronic Government Adoption. *SAGE Open*, *10*(2), 1–17. https://doi.org/10.1177/2158244020933593

Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. *Government Information Quarterly*, *36*(4), 101385. https://doi.org/10.1016/j.giq.2019.06.002

Mishra, S., Alowaidi, M. A., & Sharma, S. K. (2021). Impact of security standards and policies on the credibility of e-government. *Journal of Ambient Intelligence and Humanized Computing*, 1–12. https://doi.org/10.1007/s12652-020-02767-5

Nadkarni, S., & Prügl, R. (2021). Digital transformation: a review, synthesis and opportunities for future research. In *Management Review Quarterly* (Vol. 71, Issue 2). Springer International Publishing. https://doi.org/10.1007/s11301-020-00185-7

Netshakhuma, N. S. (2019). The role of archives and records management legislation after colonialism in Africa: Case of Southern Africa. *Records Management Journal*, *29*(1–2), 210–223. https://doi.org/10.1108/RMJ-09-2018-0024

Pacagnella, A. C., Hollaender, P. S., Mazzanati, G. V., & Bortoletto, W. W. (2020). Infrastructure and Flight Consolidation Efficiency of Public and Private Brazilian International Airports: A Two-Stage DEA and Malmquist Index Approach. *Journal of Advanced Transportation*, *2020*. https://doi.org/10.1155/2020/2464869

Palareti, G., Legnani, C., Cosmi, B., Antonucci, E., Erba, N., Poli, D., Testa, S., & Tosetto, A. (2016). Comparison between different D-Dimer cutoff values to assess the individual risk of recurrent venous thromboembolism: Analysis of results obtained in the DULCIS study. *International Journal of Laboratory Hematology*, *38*(1), 42–49. https://doi.org/10.1111/ijlh.12426

Pérez-Morote, R., Pontones-Rosa, C., & Núñez-Chicharro, M. (2020). The effects of e-government evaluation, trust and the digital divide in the levels of e-government use in European countries. *Technological Forecasting and Social Change*, *154*, 119973. https://doi.org/10.1016/j.techfore.2020.119973

Permatasari, I., Essaid, M., Kim, H., & Ju, H. (2020). Blockchain implementation to verify archives integrity on cilegon E-archive. *Applied Sciences (Switzerland)*, *10*(7), 2621. https://doi.org/10.3390/app10072621

Pleger, L. E., Guirguis, K., & Mertes, A. (2021). Making public concerns tangible: An empirical study of German and UK citizens' perception of data protection and data security. *Computers in Human Behavior*, *122*, 106830. https://doi.org/10.1016/j.chb.2021.106830

Prianto, A. L., Malik, I., Khaerah, N., Abdillah, A., & Jermsittiparsert, K. (2022). Government, Digital Society and Industry 4.0: Connective Action Against Covid-19 Fake News. *International Conference on Digital Technologies and Applications*, 480–491. https://doi.org/https://doi.org/10.1007/978-3-031-01942-5_48

Putz, B., Dietz, M., Empl, P., & Pernul, G. (2021). EtherTwin: Blockchain-based Secure Digital Twin Information Management. *Information Processing and Management*, *58*(1), 102425. https://doi.org/10.1016/j.ipm.2020.102425

Rifaid, Abdurrahman, Baharuddin, T., & Kusuma, B. M. A. (2023). Smart City Development in the New Capital City : Indonesian Government Plans. *Journal of Contemporary Governance and Public Policy*, *4*(2), 115–130. https://doi.org/https://doi.org/10.46507/jcgpp.v4i2.141

Savoldelli, A., Codagnone, C., & Misuraca, G. (2014). Understanding the e-government paradox: Learning from literature and practice on barriers to adoption. *Government Information Quarterly*, *31*(SUPPL.1).

https://doi.org/10.1016/j.giq.2014.01.008

Sharma, S. K., Metri, B., Dwivedi, Y. K., & Rana, N. P. (2021). Challenges common service centers (CSCs) face in delivering e-government services in rural India. *Government Information Quarterly*, *38*(2), 101573. https://doi.org/10.1016/j.giq.2021.101573

Singh, S. (2015). E-government considerations: A focus on South Africa. *Public Affairs and Administration: Concepts, Methodologies, Tools, and Applications*, *1*, 329–366. https://doi.org/10.4018/978-1-4666-8358-7.ch016

Sinulingga, Y. S. A., & Zulkarnain, I. (2023). Governance of Technical Guidance at the Voting Organizing Group (KPPS) level in the 2019 Election in Tebing Tinggi City: Determinants of the Continuity of Democracy. *Perspektif*, *12*(4), 1184–1196. https://doi.org/10.31289/perspektif.v12i4.9985

Suhri Kasim, S., Upe, A., Juhaepa, A. Tawulo, M., Basri, M., & Asriani. (2022). Bimbingan Teknik (Bimtek) Penyusunan Program Pembangunan Desa dalam Pemanfaatan Dana Alokasi Desa (ADD) Pada Aparat Desa di Desa Annduna Kecamatan Laeya Kabupaten Konawe Selatan. *Indonesian Journal of Community Services*, *1*(1), 12–17. https://doi.org/10.47540/ijcs.v1i1.494

Thompson, N., Mullins, A., & Chongsutakawewong, T. (2020). Does high e-government adoption assure stronger security? Results from a cross-country analysis of Australia and Thailand. *Government Information Quarterly*, *37*(1). https://doi.org/10.1016/j.giq.2019.101408

Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government – A literature review. *Government Information Quarterly*, *36*(2), 167–178. https://doi.org/10.1016/j.giq.2019.01.001

Wirtz, B. W., & Daiser, P. (2018). A meta-analysis of empirical e-government research and its future research implications. In *International Review of Administrative Sciences* (Vol. 84, Issue 1, pp. 144–163). https://doi.org/10.1177/0020852315599047

Wu, A. M., Yan, Y., & Vyas, L. (2020). Public sector innovation, e-government, and anticorruption in China and India: Insights from civil servants. *Australian Journal of Public Administration*, *79*(3), 370–385. https://doi.org/10.1111/1467-8500.12439

Wu, Y. (2014). Protecting personal data in E-government: A cross-country study. *Government Information Quarterly*, *31*(1), 150–159. https://doi.org/10.1016/j.giq.2013.07.003

Yang, L., Elisa, N., & Eliot, N. (2018). Privacy and security aspects of E-government in smart cities. *Smart Cities Cybersecurity and Privacy*, 89–102. https://doi.org/10.1016/B978-0-12-815032-0.00007-X

Yen, W. T. (2020). Taiwan's COVID-19 Management: Developmental State, Digital Governance, and State-Society Synergy. *Asian Politics and Policy*, *12*(3), 455–468. https://doi.org/10.1111/aspp.12541

Yuan, Y. P., Dwivedi, Y. K., Tan, G. W. H., Cham, T. H., Ooi, K. B., Aw, E. C. X., & Currie, W. (2023). Government Digital Transformation: Understanding the Role of Government Social Media. *Government Information Quarterly*, *40*(1), 101775. https://doi.org/10.1016/j.giq.2022.101775

Yunda, N. R., Sukaesih, S., & Prahatmaja, N. (2022). Pengelolaan arsip dinamis dalam menunjang tertib administrasi di Dinas Perpustakaan dan Kearsipan Kota Bandung. *Nautical: Jurnal Ilmiah Multidisiplin Indonesia*, *1*(7), 638–648. https://doi.org/10.55904/nautical.v1i7.427