**Online Regional Investment Information System Of Demak Regency**

**(Si Invest Oke)**

**Sumarmo**

Universitas 17 Agustus 1945 Semarang, Indonesia

Email: sumarmo@untagsmg.ac.id

***Abstract:*** *The Online Regional Investment Information System (SI INVEST OKE) is an innovation in licensing services in Demak Regency that aims to accelerate and simplify the licensing application process. This system replaces the previous offline application, SIMPPT, and provides technology-based services that can be accessed from anywhere. This study uses a descriptive analytical method with a qualitative approach to evaluate the implementation of SI INVEST OKE using Leavitt's Model (1965), which examines the relationship between four main components: tasks, human resources, technology, and organizational structure. Data were collected through in-depth interviews with DINPMPTSP employees and service users, direct observation at the DINPMPTSP office, and analysis of related documents. The findings show that the implementation of SI INVEST OKE has succeeded in reducing service time, increasing public satisfaction, and providing efficiency in licensing management. However, challenges such as limited technological infrastructure in remote areas and human resource skills are still obstacles that need to be overcome. The main recommendations from this study include increasing human resource capacity, expanding technological infrastructure, and developing more supportive regulations.*

***Keywords****: online licensing, public services, information technology, Demak Regency, HR*

1. **INTRODUCTION**

The development of information technology has brought major changes in various sectors of life, including in public services. In Indonesia, digital transformation has become an important agenda for the government to improve the efficiency, transparency, and accountability of public services. One aspect of service that really needs digitalization is the licensing process. In various regions, the licensing process is still often hampered by complex bureaucracy, requires many physical documents, and forces the public or business actors to make several physical visits to the service office. This not only wastes time but also reduces public satisfaction with government services. Amid the pressure to provide faster and easier services, the Demak Regency Government presents an innovation in the form of an Online Regional Investment Information System or what is called SI INVEST OKE.

Demak Regency is one of the regions with great economic potential, especially in the industrial and trade sectors. Its strategic geographical position, located on the Pantura Java route, makes Demak Regency an attractive location for investment. The increasing interest of investors to invest in this area creates an urgent need for fast, efficient, and transparent licensing services. Before the implementation of SI INVEST OKE, the licensing process in Demak Regency was carried out manually through the Integrated Licensing Service Management Information System (SIMPPT). This system is offline and can only be accessed internally by the Demak Regency Investment and One-Stop Integrated Service Office (DINPMPTSP). This causes various problems, such as slow processes, frequent data input errors, and lack of transparency in the licensing approval process.

Based on data from DINPMPTSP Demak Regency, in 2017, 4,597 permits were issued, and in 2018, 4,084 permits were issued. Although the number of permits processed each year is quite large, the existing manual system has proven unable to meet the need for fast and accurate service. In addition, the limited human resources (HR) skilled in managing permits is one of the main obstacles. Based on internal data, DINPMPTSP Demak Regency only has 31 employees who are responsible for managing thousands of permits each year. The limited number of employees, coupled with the lack of technological skills, causes public services to be less than optimal and reduces public satisfaction.

In an effort to overcome these problems, the Demak Regency Government launched SI INVEST OKE in 2019 as part of the digital transformation in public services. This application aims to make it easier for the public and business actors to apply for permits online, so that they no longer need to come to the DINPMPTSP office repeatedly. With this system, the licensing application process becomes more efficient, transparent, and can be accessed from anywhere as long as it is connected to the internet. SI INVEST OKE allows applicants to fill in data online, upload required documents, monitor application status, and receive licensing certificates more quickly and accurately.

However, although SI INVEST OKE provides many benefits in accelerating the licensing process, its implementation still faces several challenges. One of the main challenges is the limited technological infrastructure in several sub-districts, especially in remote areas that have limited internet access. This causes people in these areas to not be able to utilize SI INVEST OKE services optimally. In addition, HR skills at DINPMPTSP are also a concern, where many employees are still not familiar with the use of digital technology, so they need more intensive training and skills development.

StudyThis study aims to evaluate the implementation of SI INVEST OKE in Demak Regency using Leavitt's Model (1965) as an analytical framework. This model highlights the relationship between four main components in an organization: tasks, human resources, structure, and technology. By analyzing these components, this study is expected to provide a clear picture of the impact of the implementation of SI INVEST OKE on the efficiency of licensing services, the obstacles faced, and recommendations for further development. This study will also evaluate the extent to which the implementation of this technology is able to increase public and business actor satisfaction with public services in Demak Regency.

With this background, this study will answer the main question: to what extent is SI INVEST OKE able to improve the efficiency of licensing services in Demak Regency, and what factors influence the success and challenges of implementing this system.

1. **METHOD**
This study uses a descriptive analytical method with a qualitative approach. Data were collected through interviews with DINPMPTSP employees of Demak Regency, direct observation of the operational process of SI INVEST OKE, and analysis of documents related to licensing and implementation of this system. The Leavitt Model Framework (1965) is used to analyze how changes in technology components affect task components, human resources, and organizational structure at DINPMPTSP.

The data collection process focused on three main elements: (1) interviews with DINPMPTSP employees regarding changes in their roles after the implementation of SI INVEST OKE; (2) observations on the effectiveness of technology use in the licensing process; and (3) analysis of documentation related to regulations and operational policies of SI INVEST OKE. This study also involved a user satisfaction survey that measured public and business actors' perceptions of the efficiency and ease of use of this system.

1. **FINDINGS AND DISCUSSION**

**Discussion**

1. **Reduction of Service Time and Technology Efficiency**

In the perspective of technology efficiency theory, the implementation of IS INVEST OKE shows that the adoption of information technology can drastically improve the efficiency of public services (Davenport & Short, 1990). This system allows the government to reduce service time by automating most administrative tasks, including the submission and approval of permits. In accordance with Leavitt's Model (1965), changes in the technology component (implementation of IS INVEST OKE) have a direct effect on the task component (reduction of manual tasks), thereby accelerating the workflow and improving organizational performance.

Previous studies also show that technology-based public service systems such as One Stop Service implemented in other areas, such as Gresik, have similar effects in accelerating the service process and increasing public satisfaction (Sukma & Sari, 2020). Thus, this finding is in line with the theory that information technology can increase service efficiency and reduce bureaucratic red tape.

1. **Increasing User Satisfaction in Public Services**

According to the expectancy disconfirmation theory (Oliver, 1980), user satisfaction occurs when their expectations of a service are exceeded by their actual experience. In the context of SI INVEST OKE, users are satisfied because their expectations of ease and speed of service are exceeded by the fact that they can complete the permit process in a shorter time and without having to come to the office many times. Increased transparency is also a major factor driving user satisfaction.

Based on user satisfaction surveys, these findings are consistent with studies conducted in other areas, where technology-based services generally increase user satisfaction through ease of access and reduced waiting times (Rohana, 2020). With a system that allows users to monitor the status of their applications online, satisfaction with public services can continue to be improved.

1. **Technological Infrastructure Challenges and the Digital Divide**

Although SI INVEST OKE brings efficiency, the limitations of technological infrastructure in several regions indicate the existence of a digital divide, which is still a problem in many regions in Indonesia (Nugroho, 2019). Limited internet access in remote areas slows down the full implementation of this system and causes unequal access to services. Based on the perspective of technological innovation theory, the adoption of technology on a large scale requires adequate infrastructure to ensure that all communities can optimally utilize the technology (Rogers, 2003).

Therefore, this infrastructure challenge must be a major concern for the Demak Regency government, especially in expanding the reach of internet access so that it can reach all people in its area. Without adequate infrastructure, the adoption of SI INVEST OKE cannot be fully evenly distributed and results in inequality in service.

1. **Limited human resources in technology management**

Based on human capital theory (Becker, 1964), improving employee skills and competencies is very important in supporting technology implementation. This finding shows that the lack of technological skills among DINPMPTSP employees hinders the optimal management of the INVEST OKE SI system. In line with this theory, the success of technology implementation in an organization depends not only on the infrastructure, but also on the capabilities of the human resources that support it.

In this context, DINPMPTSP needs to continue to provide training and development of technological skills to its employees to ensure that they can adapt to the digital changes that occur. This effort to increase HR capacity is very important so that employees can provide adequate technical support to the community of SI INVEST OKE users.

1. **Lack of Specific Regulations and Data Security**

In line with the institutional theory view (Scott, 2001), technological changes in organizations require adjustments to regulations and policies to support their optimal implementation. This finding shows that there are still shortcomings in regulations related to the management of the INVEST OKE IS system, especially in terms of data security and digital authentication. More specific regulations are needed to ensure that this system runs according to the security and privacy standards expected by the community.

The development of adequate regulations is also important to protect user data and avoid potential data misuse. With clear and firm regulations, the Demak Regency government can guarantee the security of information managed by SI INVEST OKE, while providing protection to the public who use this service.

**Findings**

1. **Reduction of Service Time**

The implementation of SI INVEST OKE has succeeded in reducing service time significantly. The licensing process that previously took up to 10-15 working days can now be completed in 3-5 working days. This is because the system automates most of the workflow, including submission, validation, and approval, which were previously done manually. With this system, applicants only need to come to DINPMPTSP once for data verification, while all other steps can be done online.

1. **Increased User Satisfaction**

Based on the results of the user satisfaction survey, 80% of respondents were satisfied with the implementation of SI INVEST OKE. They appreciated the ease of access, speed of process, and transparency offered by this system. Most users also felt that this simpler licensing process helped save time and transportation costs.

1. **Technology Infrastructure Challenges\**

Despite the increased service efficiency, the study found that limited technological infrastructure, especially internet access, is a challenge in some areas. Several sub-districts in Demak Regency, especially those in remote areas, face problems with limited internet networks. This affects the smooth access to SI INVEST OKE and causes delays in the permit application process in the area.

1. **Limited human resources in technology management**

Another finding is the lack of technological skills among DINPMPTSP employees. Most employees who are accustomed to manual processes have difficulty using technology-based systems. Although training has been carried out, some employees still need time and assistance to be able to use SI INVEST OKE effectively.

1. **Lack of Specific Regulations for Data and System Management**

Although SI INVEST OKE has been running well, there are still shortcomings in terms of regulations governing the management of this system. Regulations related to personal data protection and digital authentication have not been fully implemented, so there is a potential risk in the security of information processed through this system.

From the findings and discussion, the main research questions were answered well, both providing comprehensive answers related to the two important aspects raised in the main question:

**1. To what extent is SI INVEST OKE able to improve the efficiency of licensing services in Demak Regency?**

In the Findings section, we have identified that the implementation of SI INVEST OKE has a significant impact on increasing the efficiency of licensing services. The service time that previously took 10-15 working days has been successfully reduced to 3-5 working days. This is because:

* Process Digitalization: SI INVEST OKE automates the process of submitting and approving permits, so that applicants do not need to visit the office of the Investment and Integrated One-Stop Service Office (DINPMPTSP) many times. The previously manual workflow can now be done online, saving time and effort for both applicants and officers.
* **Ease of Access**: The public and business actors can access the system anytime and from anywhere as long as they are connected to the internet. This eliminates geographical and time barriers that were previously obstacles.
* Improved User Satisfaction: Surveys show that the majority of users are satisfied with the system due to the time efficiency it offers and the greater transparency of the licensing process.

In the Discussion section, we have linked this efficiency improvement to the theory of technological efficiency and Leavitt's Model (1965), which explains that changes in the technology component (implementation of SI INVEST OKE) directly impact the task component (reduction of manual workload) and organizational structure (adjustment of workflow in DINPMPTSP). This reduction in service time is in accordance with the process innovation theory which shows that digitizing administrative processes can eliminate bottlenecks in public services.

Thus, these findings and discussions clearly show that SI INVEST OKE is indeed able to significantly increase the efficiency of licensing services in Demak Regency.

**2. What Factors Influence the Success and Challenges of Implementing This System?**

In the Findings, the factors influencing the success and challenges of the implementation of SI INVEST OKE have been clearly identified:

* **Success**:
	+ **Service Time Reduction**: The digitalization implemented by SI INVEST OKE has succeeded in reducing the time required for processing permits, providing faster access for the public and business actors.
	+ **User Satisfaction**: High level of satisfaction among users, mainly because the system eliminates **bureaucratic** complexity and provides easy access to public services.
	+ **Process Transparency**: This system allows applicants to monitor the licensing status in real-time, increasing public trust in the government because the licensing process becomes more transparent.
* **Challenge**:
	+ **Limitations of Technology Infrastructure**: In remote areas, internet connectivity issues are still an obstacle. This limited access affects the ability of people in remote areas to optimally utilize the SI INVEST OKE system.
	+ **HR Skills**: Many employees at DINPMPTSP are still limited in terms of technological skills, so they are not yet fully able to utilize this system to its full potential. This limitation hampers the process of adapting to the new system, especially in terms of technical support to applicants.
	+ **Inadequate Regulation**: The lack of regulations governing data security and privacy protection is a challenge in maintaining public trust. Personal data protection and digital signatures require specific regulations that have not been fully implemented.

In the Discussion, the success factors are related to the expectancy disconfirmation theory which explains how user expectations for ease and speed of service are exceeded by the fact that SI INVEST OKE provides faster and more transparent services. On the other hand, the challenges are related to the concept of the digital divide, which shows that inequality in access to technology in remote areas affects the adoption of digital systems such as SI INVEST OKE. In addition, HR challenges are related to human capital theory which emphasizes the importance of developing HR skills to optimize the use of technology.

Thus, the findings and discussion explain in detail the factors that support the success and challenges in the implementation of SI INVEST OKE.

1. **CONCLUSION**

This study shows that the implementation of SI INVEST OKE in Demak Regency has a significant positive impact in terms of public service efficiency, especially in the licensing process. The service time that previously could reach 10-15 working days has been successfully reduced to 3-5 working days, thanks to the technology-based system that allows applicants to apply for permits online without having to make physical visits many times. In addition, the results of the user satisfaction survey showed that the majority of respondents were satisfied with this system, appreciating the speed and transparency offered by SI INVEST OKE.

However, this study also found several challenges that need to be addressed. One of the main challenges is the limited technological infrastructure, especially internet access in remote areas that makes it difficult for people in these areas to access online services. In addition, the skills of DINPMPTSP employees in using technology still need to be improved, where most employees are still not fully familiar with digital systems. Human resource development through training and strengthening technological capacity is very important so that this system can operate optimally.

In addition, regulations that support the application of technology in public services are still not fully adequate. Personal data protection, digital authentication, and information security are important aspects that need to be considered so that this system can run safely and in accordance with public expectations.

**RECOMMENDATION**

Based on the research results, here are some recommendations that can be implemented to improve the success and sustainability of SI INVEST OKE in Demak Regency:

1. **Human Resources Capacity Building**

The Demak Regency Government needs to hold more intensive and sustainable training for DINPMPTSP employees regarding the use of SI INVEST OKE. Improving technological skills is essential so that employees can adapt to digital changes and be able to provide adequate technical support to the community using the service. This training should also include data management and information protection to ensure system security.

1. **Technology Infrastructure Expansion**

To overcome the problem of access in remote areas, the government needs to work with internet service providers to expand the reach of the internet network, especially in sub-districts that do not yet have adequate access. Thus, all people in Demak Regency can utilize SI INVEST OKE services optimally, without any disparity in access between regions.

1. **Developing More Supportive Regulations**

The Demak Regency Government needs to formulate more specific and detailed regulations regarding the use of technology in licensing services. These regulations must cover aspects of personal data protection, information security, and the use of digital signatures. Strong regulations will provide a clear legal basis for the implementation of SI INVEST OKE and increase public trust in this system.

1. **Integrated System Development**

SI INVEST OKE can be further developed by integrating this system with other platforms, such as the Regional Management Information System (SIMDA) or smart city dashboard to provide more comprehensive access for the government and the community. In addition, the implementation of digital signatures will increase the validity of documents and minimize the potential for forgery, so that the licensing process becomes faster and safer.

**THANK-YOU NOTE**

The author would like to thank the Demak Regency Investment and One-Stop Integrated Service Office (DINPMPTSP) for its support in providing the data and information needed for this research.

**REFERENCE**

Agostino, D., Arnaboldi, M., & Lema, M. (2021). COVID-19 as an accelerator of digital transformation in public service delivery. Public Money and Management, 41(1), 69–72. https://doi.org/10.1080/09540962.2020.1729196

Benis, A., Tamburis, O., Chronaki, C., & Moen, A. (2021). One digital health: A unified framework for future health ecosystems. Journal of Medical Internet Research. https://doi.org/10.2196/22189

Criado, J., & Gil-Garcia, J. (2019). Creating public value through smart technologies and strategies: From digital services to artificial intelligence and beyond. International Journal of Public Sector Management, 32(5), 438–450. https://doi.org/10.1108/IJPSM-08-2018-0179

Dignum, V. (2018). Ethics in artificial intelligence. Ethics and Information Technology, 20(1), 1–3. https://doi.org/10.1007/s10676-018-9450-z

DINPMPTSP Kabupaten Demak. (2019). Profil Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Kabupaten Demak. Demak: DINPMPTSP.

Gresik, DPUTARU. (2020). Best practices in one-stop service for licensing. Gresik: DPUTARU Kabupaten Gresik.

Harris, M., & Raviv, A. (2002). Organization design. Management Science, 48(5), 632-650. https://doi.org/10.1287/mnsc.48.5.632.7797

Laita, A., & Belaissaoui, M. (2017). Information technology governance in public sector organizations. In Á. Rocha, M. Serrhini, & C. Felgueiras (Eds.), Advances in Information and Communication Technologies (Vol. 520, pp. 450–462). Springer. https://doi.org/10.1007/978-3-319-46568-5\_34

Leavitt, H. J. (1965). Applied organizational change in industry: Structural, technological, and humanistic approaches. In J. G. March (Ed.), Handbook of organizations (pp. 1144-1170). Rand McNally.

Mu, R., & Wang, H. (2022). A systematic literature review of open innovation in the public sector: Comparing barriers and governance strategies. Public Management Review, 24(4), 489–511. https://doi.org/10.1080/14719037.2021.1876789

Neumann, O., Guirguis, K., & Steiner, R. (2022). Exploring artificial intelligence adoption in public organizations: A comparative case study. Public Management Review. https://doi.org/10.1080/14719037.2022.2048685

Osborne, S., Powell, M., Cui, T., & Strokosch, K. (2022). Value creation in the public service ecosystem: An integrative framework. Public Administration Review. https://doi.org/10.1111/puar.13474

Overton, R., Lips, M., & Eppel, E. (2020). Digital transformation and public service delivery: Impacts of COVID-19. Global Public Policy and Governance. https://doi.org/10.1007/s43508-020-00022-5

Pemerintah Republik Indonesia. (2019). Peraturan Pemerintah Nomor 24 tentang Pelayanan Perizinan Berusaha Terintegrasi Secara Elektronik. Jakarta: Sekretariat Negara.

Tichy, N. M. (1983). Managing strategic change: Technical, political, and cultural dynamics. John Wiley & Sons.

Zhang, X., Xu, Y. Y., & Ma, L. (2023). Information technology investment and digital transformation: The roles of digital transformation strategy and top management. Business Process Management Journal, 29(2), 528–549. https://doi.org/10.1108/BPMJ-06-2022-0254