Management Studies and Business Journal (PRODUCTIVITY)
Vol 1 (11) 2024 : 1497-1505

IMPLEMENTATION OF THE INAPORNET SYSTEM IN IMPROVING SHIP LICENSING SERVICES IN THE UPP MOLAWE OFFICE AREA

IMPLEMENTASI SISTEM INAPORNET DALAM PENINGKATAN PELAYANAN PERIZINAN KAPAL DI WILAYAH KANTOR UPP MOLAWE

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ABSTRACT
The application of digital technology has brought significant changes in improving the efficiency of public services, including the transportation sector. In the ship licensing service, the Inaportnet System at the UPP Molawe Office is expected to facilitate a faster and more efficient administrative process. However, in its implementation, the system faces technical constraints, such as network instability and lack of user understanding, which hinder the achievement of optimal efficiency. This study uses a descriptive qualitative approach with in-depth interviews with three informants who have a direct role in the management and implementation of the Inaportnet System. The results show that although Inaportnet has improved the efficiency of ship licensing services, some challenges such as network constraints and user literacy still need to be overcome to achieve full optimization. The implications of this study emphasize the importance of improving network infrastructure and continuous education for users to support the sustainability of digital services in the transportation sector.
Keywords: Inaportnet; network infrastructure; licensing services; transportation

ABSTRAK
Penerapan teknologi digital telah membawa perubahan yang signifikan dalam peningkatan efisiensi pelayanan publik, termasuk sektor transportasi. Dalam pelayanan perizinan kapal, Sistem Inaportnet di Kantor UPP Molawe diharapkan dapat mempermudah proses administrasi yang lebih cepat dan efisien. Namun dalam implementasinya, sistem tersebut menghadapi kendala teknis, seperti ketidakstabilan jaringan dan kurangnya pemahaman pengguna, yang menghambat tercapainya efisiensi yang optimal. Penelitian ini menggunakan pendekatan kualitatif deskriptif dengan wawancara mendalam kepada tiga orang informan yang memiliki peran langsung dalam pengelolaan dan implementasi Sistem Inaportnet. Hasil penelitian menunjukkan bahwa meskipun Inaportnet telah meningkatkan efisiensi pelayanan perizinan kapal, namun beberapa tantangan seperti kendala jaringan dan literasi pengguna masih perlu diatasi untuk mencapai optimalisasi secara penuh. Implikasi dari penelitian ini menekankan pentingnya peningkatan infrastruktur jaringan dan edukasi berkelanjutan bagi pengguna untuk mendukung keberlanjutan layanan digital di sektor transportasi.
Kata kunci: Inaportnet; infrastruktur jaringan; pelayanan perizinan; transportasi

1. INTRODUCTION

Digital transformation has become an integral part of the advancement of public services in various sectors. The presence of digital technology allows faster access to information and more efficient data processing, thereby supporting the improvement of service quality (Ongaro, 2020). In many countries, the public sector is proactively adopting digital innovation to respond to public demands for greater transparency and accountability in the services received (OECD, 2019). In addition, digitization also helps in reducing manual procedures that are often time-consuming and prone to human error. Therefore, the adoption

of digital technology in public services is a strategic effort to improve efficiency, user satisfaction, and national competitiveness.

In the transportation sector, digitalization has had a great influence in creating a more responsive and controlled system. For example, the application of digital technology to marine transportation systems allows for better monitoring of ship inflows and outflows at ports, thereby reducing the risk of administrative errors (UNCTAD, 2021). These innovations not only contribute to improved safety and security, but also speed up administrative processes that previously relied on manual methods. In addition, digitalization in transportation licensing also allows integration between agencies that can improve coordination and monitoring in real-time. This condition shows that digitalization is not just a trend, but an urgent need to manage an increasingly complex transportation system.

Ship licensing services are one of the areas that have benefited significantly from the implementation of digital-based systems. With the growing demand for sea transportation services, digital systems, such as Inaportnet, play a role in supporting the smooth administrative process, including the issuance of important documents. In many ports, this system allows ship agents and other service users to apply for licensing documents online, reducing reliance on manual procedures (World Bank, 2020). Along with this implementation, public services in the marine transportation sector are expected to become more transparent, efficient, and responsive to user needs. The implementation of digital technology in this field not only improves operational performance, but also facilitates a better supervision process by the authorities.

In the transportation sector, the use of digital technology is very important in ensuring the smooth and safe licensing process. Digitalization in transportation includes the development of intelligent systems that can improve control and monitoring in real-time (International Transport Forum, 2019). This technology allows any administrative process, such as licensing and clearance, to be faster and more accurate, reducing potential bottlenecks arising from convoluted manual procedures. For example, the implementation of digital systems in the ship clearance process facilitates a smoother flow of logistics, providing a positive influence on the efficiency of port operations. Thus, this digital transformation not only optimizes services, but also strengthens the role of the transportation sector as a vital component in the global supply chain.

Technological developments in the transportation sector not only support administrative efficiency, but also have a significant impact on service security. According to research by the International Maritime Organization (IMO, 2020), digital technologies adopted in marine transportation have allowed for increased data accuracy and speed of response to security risks. Digital-based licensing systems allow for more effective verification and prevent potential human error in the clearance process, thereby improving shipping safety. This implementation also allows ports to follow international safety standards, putting the transport sector in a safer and more integrated position. Therefore, digitalization in transportation not only improves efficiency, but is also a crucial step in creating a safe and reliable transportation system.

The application of digital technology in transportation licensing reflects the sector's increased capacity to respond to modern challenges. This technology allows for better coordination between the agencies involved, strengthening synergy in licensing management (OECD, 2019). With digitalization, licensing that used to take longer can now be completed in minutes or hours, depending on the complexity of the process. This certainly provides significant advantages, especially in ports with high inflows and outflows of ships. Digitalization in this sector, therefore, is an important basis for achieving sustainable efficiency.

Ship licensing services have the potential to be optimized through the application of digital technology. Various digital innovations, including automation systems and web-based applications, allow administrative processes to become more efficient and transparent (United

Nations Conference on Trade and Development, 2021). With the increasing demand for port services and ship licensing, digital systems facilitate better regulation of ship flows and reduce congestion caused by manual procedures. Additionally, digitization allows for real-time access to data, allowing stakeholders to make decisions faster and more precisely. Thus, the application of digital technology to ship licensing services not only responds to the need for efficiency, but also supports the improvement of service quality oriented towards user satisfaction.

Digitalization in ship licensing provides significant benefits, especially in supporting the availability of accurate information for service users. According to a study conducted by the World Bank (2020), the implementation of digital technology in ports and related services has the potential to speed up administrative processes by up to 40%. The licensing process that previously took days can be completed in a matter of hours with the help of an automated system. This digitalization reduces the workload on port officials and allows them to focus on other important aspects of port operations. Thus, the digital-based ship licensing system strongly supports efforts to improve efficiency and accuracy in port services. Digital innovations in ship licensing also improve the integrity of the data used by the parties involved in this process. This technology reduces the risk of human error and ensures that every document required for licensing is available and digitally verified (IMO, 2020). Thus, the entire licensing process becomes safer and more reliable, especially in maintaining the smooth flow of ships in and out of the port. This advantage shows that the application of digital technology not only improves service efficiency, but also improves the overall quality of the licensing process. This digitalization is in line with global developments towards more responsive and modern public services.

Inaportnet is one of the digital-based systems designed to improve the efficiency and quality of ship licensing services at ports. This system allows users, such as ship agents and shipping companies, to access administrative and licensing services online, thereby reducing reliance on manual processes (Ministry of Transportation Indonesia, 2018). Through this platform, the process of submitting important documents such as Sailing Approval Letter (SPB) and Entry Approval Letter (SPM) becomes faster and is systematically monitored. In addition, Inaportnet supports the implementation of more consistent operational standards by minimizing process variations that may occur in manual services. Therefore, the implementation of Inaportnet is a significant step in improving the quality and transparency of port services.

The presence of Inaportnet provides added value for port service users, especially in terms of ease and speed of access. Research shows that digital systems such as Inaportnet are able to shorten the licensing process time by 30-50% compared to manual methods (Asian Development Bank, 2020). The ability to access services online allows users to carry out paperwork without having to be physically present at the port office, which significantly reduces time and transportation costs. This savings is one of the main attractions of digital-based systems for the efficiency-oriented marine transportation sector. Therefore, Inaportnet supports the achievement of operational efficiency goals in ship licensing services.

In addition to facilitating service speed, Inaportnet also improves coordination between various agencies involved in the ship licensing process. With this system, the necessary information can be accessed by relevant parties in real-time, thereby speeding up the verification and approval process (World Bank, 2021). In addition, inter-agency integration allows for a more integrated service, where each stage of licensing can be completed without having to repeatedly submit physical documents. This not only reduces administrative burden, but also supports the improvement of service quality through consistent operational standards. Inaportnet, as such, reflects a strategic effort to realize efficient and consolidated services.

The implementation of the Inaportnet System at the UPP Molawe Office has brought important changes in ship licensing service procedures. This system allows the administrative

process to be more efficient, significantly reducing the time needed to submit licensing documents (Ministry of Transportation Indonesia, 2021). Service users can access this system easily through the official portal, so they no longer need a physical visit to the syah bandar office to take care of documents. With online access, various obstacles that usually arise in manual procedures can be minimized. This implementation is expected to support the improvement of service quality at the UPP Molawe Office.

However, there are several challenges in the implementation of Inaportnet at the UPP Molawe Office, especially related to network stability and other technical obstacles. Reports show that unstable internet networks are often the main obstacle to the implementation of digital-based services in Indonesia (OECD, 2020). This challenge requires an alternative in the form of manual services when the system experiences disruptions. This shows that adequate infrastructure readiness is an important factor in supporting the successful implementation of digital systems. This obstacle is also an evaluation material in improving the quality of the network that supports the smooth running of technology-based services. On the other hand, the UPP Molawe Office continues to strive to maximize the benefits offered by the Inaportnet System through socialization and training for users. This effort is expected to improve users' understanding and skills in utilizing the system optimally (Asian Development Bank, 2020). By providing adequate technical support, it is hoped that the technical challenges faced by users can be better addressed. This support reflects the commitment of the UPP Molawe Office to provide ship licensing services that are increasingly responsive and oriented to user needs. The implementation of Inaportnet, thus, shows a real contribution to improving public services in the sea transportation sector.

Although digital technology in general has shown great potential in improving efficiency, obstacles in its implementation in public institutions are still often encountered. Research shows that the main challenges in the application of digital technology in the public sector are the readiness of infrastructure and variable user adaptation (Ongaro, 2020). In many developing countries, this obstacle is caused by limitations in network systems and the availability of adequate technical resources (UNCTAD, 2021). As a result, the full potential of digitalization to improve public services has not been fully realized, especially in areas that rely on internet connectivity. Therefore, efforts to improve infrastructure and training are needed to increase user understanding and readiness in optimizing digital technology in public services.

The reliance on digital technology in the transportation sector has not been fully supported by reliable network infrastructure, which is often a source of constraints in public services. According to the OECD (2019), developing countries are experiencing limitations in providing stable network infrastructure to support digitization in the transportation sector. This situation is exacerbated by the high demand for transportation services that require adequate and reliable internet connectivity. Network instability often causes disruptions to digital licensing systems, slowing down processes that would otherwise be accelerated by technology. Therefore, strengthening network infrastructure in the transportation sector is a crucial step to ensure that the full benefits of digitalization can be felt by the community.

In ship licensing services, technical constraints such as network disruptions and incomplete documents are a major challenge in achieving the expected efficiency of a digital-based system. Research by the World Bank (2020) shows that the digitization process in public services is often disrupted by technical problems that hinder the smooth running of services. In ports, the reliance on internet connectivity makes the ship's licensing system vulnerable to technical glitches that can slow down services. In addition, the incompleteness of documents submitted by service users also affects the effectiveness of the digital licensing process. This problem emphasizes the importance of understanding and compliance with digital administration procedures by service users so that efficiency goals can be achieved.

The Inaportnet system, although designed to speed up the clearance and licensing process of ships, often faces operational issues that cause delays in service. UNCTAD (2021) underlines that dependence on digital systems that are not fully mature can cause uncertainty in the service process. In many ports, Inaportnet faces a variety of technical challenges, ranging from network constraints to the need for system updates that are often unpredictable. This condition causes inconvenience for service users who expect efficiency from digital systems. Therefore, increasing the technical carrying capacity and routine maintenance of the system are important aspects to ensure the smooth operation of Inaportnet in the long term.

The implementation of the Inaportnet System at the UPP Molawe Office has brought significant changes in the procedures of ship licensing services, but some technical obstacles such as internet network instability and lack of user understanding are still major obstacles. The Asian Development Bank (2020) stated that the success of the implementation of digital technology in the public sector is highly dependent on infrastructure support and user technology literacy. At UPP Molawe, frequent internet network disruptions require manual procedures as an alternative, which has the potential to hinder service efficiency. In addition, the limited understanding of how the Inaportnet system works also hinders the effectiveness of this system. These obstacles show the importance of strengthening infrastructure and user education to achieve optimal use of Inaportnet in ship licensing services at the UPP Molawe Office.

This research is urgent considering the importance of optimizing the implementation of the Inaportnet System to improve the efficiency of ship licensing services at the UPP Molawe Office. Although the system is designed to speed up the administrative process and provide easy access for users, there are still various technical obstacles that hinder this goal. Network glitches, lack of user understanding, and reliance on manual procedures when technical issues occur indicate that the system is not yet fully optimal. The findings of this study are expected to be a fundamental solution to these various problems, identify the root of the problem in the implementation of Inaportnet, and provide strategic recommendations to strengthen the quality of ship licensing services. Thus, this research is relevant to increase the effectiveness of Inaportnet, ensure the sustainability of service digitalization, and strengthen the competitiveness of public services in the marine transportation sector.

Therefore, this study aims to explore in depth the obstacles faced in the implementation of the Inaportnet System at the UPP Molawe Office, as well as find a solution strategy to overcome these challenges. The focus of this research is to identify technical and non-technical problems that affect the effectiveness of ship licensing services, so that targeted improvement measures can be formulated. In addition, this study also intends to assess the extent of Inaportnet's utilization in accordance with the operational standards that have been set. The findings produced are expected to be a reference for related parties in strengthening digital infrastructure and user education, in order to achieve optimal efficiency and service quality.

2. METHODS

This study uses a descriptive qualitative design to understand the application of the Inaportnet System in ship licensing services in the UPP Molawe Office area. This approach was chosen to explore in-depth information about the perceptions and experiences of informants related to the effectiveness and obstacles faced in the implementation of the system. Data was collected through semi-structured interviews with open-ended questions so that informants could provide detailed and contextual responses. The selection of this design is based on the research objective to obtain a comprehensive understanding from the perspective of Inaportnet system users in the field. Thus, this study aims to obtain a concrete picture of the advantages, disadvantages, and challenges in the implementation of this system. The research subjects consist of three main informants who play a direct role in the management and

implementation of the Inaportnet System, namely the management staff, the head of the sea traffic section, and the head of the port facilities section. Informants are selected purposely based on their roles and responsibilities in the process of ship licensing services, so that the information obtained is considered relevant and in-depth. Interviews with informants are conducted directly, which allows researchers to obtain rich and accurate qualitative information. The interview process lasts for several weeks, adjusting to the availability of the informant's time. This data collection technique is seen as effective in identifying technical problems and supporting factors in the implementation of Inaportnet.

The main instrument of the research is an interview guide that is prepared to direct the discussion to important aspects such as the advantages, disadvantages, and working procedures of the Inaportnet system. The interview guide is structured using semi-structured questions to ensure consistency but still provide flexibility for the informant to explain his or her experience. The data collection procedure begins with compiling an interview guide, followed by an interview process that is systematically recorded and documented. The results of the interviews were then analyzed with a thematic approach to identify patterns that are relevant to the research objectives. All data and findings obtained are then processed and interpreted to provide a comprehensive understanding of the implementation of the Inaportnet System at the UPP Molawe Office.

3. RESULTS

The results of this study describe the implementation of the Inaportnet System at the UPP Molawe Office to improve the efficiency of ship licensing services. Based on interviews with three informants who have different roles in the management and implementation of the system, an in-depth understanding of the benefits, challenges, and technical obstacles faced in the implementation of Inaportnet was obtained. The first informant, who is a system management staff, emphasized that Inaportnet makes it easier to issue important documents, such as Entry Approval Letter (SPM), Sailing Approval Letter (SPB), and Movement Approval Letter (SPOG). The first informant also highlighted the advantages of Inaportnet which is able to speed up the service process and reduce the need to come directly to the syahbandar office, although there are still network constraints that often require manual service when the server is disrupted. Similarly, the second informant who served as the head of the marine traffic section stated that this system was very helpful in *the process of _clearance in_ and _clearance out_ ships*, but said that network disruptions were the main obstacle that was often encountered.

Furthermore, the third informant who serves as the head of the port facilities section highlighted the online monitoring aspect offered by Inaportnet. This monitoring allows KSOP to monitor the ship clearance process in real-time, thereby supporting transparency and accountability in service. However, obstacles in the process of uploading large documents that are not readable by the system add to the challenges in the implementation of Inaportnet. All informants agreed that the procedure for issuing SPB through Inaportnet was in accordance with the applicable SOPs, but there were obstacles in the form of an internet network that was often unstable and service users did not know about the procedures that had to be carried out. To overcome these obstacles, the syahbandar imposed manual services as an alternative, and tried to guide agents or shipping companies who were not familiar with this system. These findings show that although Inaportnet has contributed to improving service efficiency, network infrastructure improvements and deeper socialization to users are still needed to achieve optimal performance.

Table 1. Recapitulation of Interview Results Regarding the Inaportnet System

No	Aspects	Findings
1	Excess	Facilitate the service process because it is online-based, reduce the need for direct visits, and accelerate the issuance of documents such as SPB and SPM.
2	Deficiency	Internet network constraints, large unreadable file sizes, and dependence on a central server that sometimes undergoes sudden maintenance.
3	Alternative	Manual service is enforced when there is a system or network disruption.
4	SOP Harmonization	The process of issuing SPB has been in accordance with the applicable SOPs, although there are challenges in document readiness and lack of understanding by agents or service users.

Source: UPP Molawe, 2024

This table highlights that although Inaportnet has succeeded in improving service efficiency by providing online access, network problems and limited user capabilities are still the main obstacles in its implementation.

The results of this study show that the implementation of the Inaportnet System at the UPP Molawe Office has a positive impact on accelerating and simplifying the process of ship licensing services. Based on in-depth interviews with three main informants, information was obtained that Inaportnet has simplified the management of licensing documents, such as Entry Approval Letters (SPM), Sailing Approval Letters (SPB), and Movement Approval Letters (SPOG). In addition, the system allows agents and service users to apply for documents online, reducing the need for physical interaction, and speeding up the administrative process. However, technical constraints such as internet network instability often hampered the service process, which sometimes forced KSOP to return to manual methods. This obstacle shows that there is an urgent need to improve network infrastructure so that the benefits of Inaportnet can be fully optimized in the ship licensing process.

In addition to improving efficiency, the findings also show the importance of increasing user literacy towards Inaportnet procedures. Most of the informants revealed that the lack of understanding related to the use of this system is still an obstacle in achieving optimization. Some service users, especially shipping agents or companies, often face obstacles when it comes to completing the required documents, which are sometimes illegible or incomplete. In order to provide a clearer understanding, a table of recapitulation of the interview results was presented that highlighted various important aspects of the implementation of Inaportnet, including the advantages, disadvantages, and temporary solutions implemented. This table shows that network problems and lack of digital literacy are the main obstacles that affect the effectiveness of services. Thus, efforts to improve network infrastructure and user education are urgently needed to ensure that the implementation of Inaportnet runs as expected and is able to support ship licensing services optimally.

4. DISCUSSIONS

The results of the study show that the implementation of the Inaportnet System at the UPP Molawe Office has been able to improve the efficiency of ship licensing services despite being faced with several technical obstacles. The increase in efficiency felt through the use of this digital system proves that digital technology can improve the performance of public services, as stated by Ongaro (2020) that digitalization has great potential in optimizing the operations of public institutions. Despite the obstacles in implementation, these findings also confirm that digital technology provides significant convenience in the administrative process, such as speeding up the issuance of documents and reducing the need for direct interaction in the service office. This condition is in line with the concept expressed by UNCTAD (2021), which emphasizes the importance of adopting digital technology in the public sector to overcome

capacity limitations and accelerate services. Thus, the obstacles encountered do not eliminate the advantages of Inaportnet, but encourage the improvement of technical improvements and network infrastructure.

In the transportation sector, the dependence on digital technology such as Inaportnet has not been fully supported by stable infrastructure, and this has proven to be one of the main obstacles in the service at the UPP Molawe Office. Studies show that adequate network infrastructure plays a significant role in supporting the effectiveness of digital technology, especially in sectors that have real-time needs, such as marine transportation (OECD, 2019). In this study, internet network disruptions often hampered the licensing service process, requiring officers to implement manual procedures as an alternative. This situation gives a clear picture that, although Inaportnet is able to improve its services, the success of its implementation depends heavily on adequate network infrastructure. Therefore, improving the internet network in the operational area of the Molawe UPP Office is a priority to achieve the expected efficiency of this technology.

The results also revealed that technical constraints such as network disruptions and incomplete documents often slow down the process of ship licensing services, although digital systems such as Inaportnet are expected to overcome these barriers. According to the World Bank (2020), the success of digital technology in public services is highly dependent on user compliance and infrastructure readiness, both of which are problems at the UPP Molawe Office. Incompleteness of documents, for example, demands better knowledge and understanding from users regarding the requirements that apply in digital systems. Therefore, there needs to be continuous education and socialization to ensure that users understand the procedures and requirements for using Inaportnet. Thus, these findings show that infrastructure improvements must be accompanied by an increase in user literacy in the use of digital-based systems.

In addition to network constraints, the implementation of Inaportnet still faces operational problems that often cause service delays, even though this system is designed to speed up the clearance and licensing process. UNCTAD (2021) states that the adoption of digital technologies must be accompanied by operational readiness that includes regular system maintenance and adequate technical support. At the UPP Molawe Office, technical glitches often require manual procedures as an alternative, which indicates that Inaportnet's operations still require technical improvements to achieve service optimization. With an increase in technical support and more structured system maintenance, these operational bottlenecks can be minimized. Therefore, the results of this study lead to the importance of improving operational management in the application of digital technology in the marine transportation sector.

At the UPP Molawe Office, another significant obstacle is the lack of user understanding of how Inaportnet works, which often hampers the effectiveness of the service. The Asian Development Bank (2020) emphasized that user technology literacy plays a crucial role in the successful implementation of digital systems. This lack of understanding creates limitations in the optimal use of Inaportnet, so regular guidance or training is needed for agents or shipping companies that use this service. Increasing user literacy will not only reduce obstacles in using the system, but can also increase user satisfaction and trust in ship licensing services. Therefore, this study provides recommendations to improve socialization and technical guidance, to ensure that all users have an adequate understanding of using Inaportnet at the UPP Molawe Office.

5. CONCLUSIONS

The implementation of the Inaportnet System at the UPP Molawe Office has succeeded in improving the efficiency of ship licensing services, but it is still faced with various technical obstacles and infrastructure limitations. The findings show that while these digital systems provide ease and speed in managing services, network disruptions and lack of user understanding are often significant obstacles. Thus, improving network infrastructure and improving user education are urgently needed to achieve Inaportnet performance optimization. The recommendations produced by this study are expected to be a reference for policymakers to overcome operational obstacles in the implementation of digital systems in ship licensing services. This conclusion reinforces the view that digital technology, with adequate infrastructure support, has great potential to improve the performance of public services in the transportation sector.

Theoretically, these findings add to the understanding of the role of infrastructure and technological literacy in the effectiveness of digital systems in the public service sector. In the context of human resources, this study highlights the importance of training and increasing user capacity to ensure optimal utilization of the system. From a practical perspective, the proposed solutions such as strengthening network infrastructure and intensive socialization to users make a real contribution to improving the quality of ship licensing services. However, this research has limitations on its scope which only covers the UPP Molawe Office and is limited to a qualitative approach. Future research is expected to develop a broader and quantitative approach to broaden the understanding of the effectiveness of Inaportnet in various other port areas, so as to enrich references for the development of digital technology in the transportation sector.

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