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Dynamic Archiving Information System (SIKD) For Company Operational Effectiveness Pt. Jakarta Industrial Estate Pulogadung (Persero)

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Abstract

This study analyzes the implementation of Dynamic Archiving Information System (SIKD) at PT Jakarta Industrial Estate Pulogadung (PT JIEP) to improve operational effectiveness. SIKD replaces manual methods in archive management, thereby accelerating document searches, improving data security, and reducing paper use. This study uses a qualitative approach through observation, interviews, and fishbone diagram analysis. The results of the study indicate that Dynamic Archiving Information System (SIKD) improves time efficiency, employee productivity, and transparency and accountability of company operations. However, there are obstacles such as dependence on internet connection and lack of employee training. Other technical obstacles include limited document re-registration features (backdate) and suboptimal system capacity. To improve the effectiveness of SIKD, it is recommended to improve technology infrastructure, continuous training, and update features to make them more user-friendly. With these steps, SIKD can be more optimal in supporting PT JIEP's operations.

Keywords: ***SIKD, operational effectiveness, archive management, PT JIEP***

INTRODUCTION

PT Jakarta Industrial Estate Pulogadung (PT JIEP) is the first industrial estate developer and manager in Indonesia, jointly owned by the Government of the Republic of Indonesia and the Provincial Government of DKI Jakarta. Spanning an area of 433 hectares in DKI Jakarta, PT JIEP is committed to providing the best services to all stakeholders. This industrial estate is designed to foster investment growth in Indonesia,

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particularly within Jakarta. Currently, PT JIEP has attracted over 400 companies, both national and multinational, operating in various sectors, including industrial land management, ready-to-use factory buildings, and warehouse facilities. Additionally, the estate offers supporting businesses such as a Financial Center Building, Small Business Industrial Hub, Logistics, Land Utilities, Sports Center, Food Court, Outdoor Media, and JIEP Mart. With its strategic location and excellent accessibility for transportation and distribution throughout Jakarta, PT JIEP remains a top choice for business occupiers.

To enhance its operational efficiency, PT Jakarta Industrial Estate Pulogadung (PT JIEP) has implemented the Dynamic Archival Information System (SIKD), an electronic records management system. The adoption of SIKD has provided significant benefits, particularly in improving the effectiveness of document management. The system enables a more efficient archiving process by allowing electronic access to records, reducing the time required for document retrieval and storage. This transition from manual to digital archiving has streamlined operations, minimizing errors and optimizing administrative processes.

Furthermore, the implementation of SIKD is expected to support transparency and accountability in the company's operations. Since every document access and modification is recorded and traceable, it provides a clear audit trail that can be utilized for evaluation and regulatory compliance. The adoption of SIKD aligns with PT JIEP's continuous efforts to innovate and enhance operational performance. With a modern and efficient archiving system, PT JIEP aims to focus more on industrial estate development, support its ongoing eco-green initiatives, and strengthen its position as a key catalyst for industrial growth in Jakarta. However, an essential question remains: can SIKD be effectively sustained to enhance employee efficiency, or will it present unforeseen challenges?

To assess whether SIKD can improve employee effectiveness at PT JIEP, this study employs the 4M Fishbone approach, which includes (1) Manpower, (2) Methods, (3) Machines, and (4) Materials. The key challenges identified include (1) Manpower: lack of employee training on new technological systems; (2) Methods: unstandardized archiving procedures and internal policies that do not fully support SIKD optimization; (3) Machines (Technology): frequent technical issues such as system downtime; and (4) Materials (Data): incomplete or inaccurate archived data. This research aims to evaluate the effectiveness of SIKD in supporting both employee performance and overall corporate operations, identifying potential obstacles and developing solutions to ensure that the system operates efficiently to achieve the company's objectives.

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LITERATURE REVIEW

Sustainable Operations Management (SOM)

Sustainable Operations Management (SOM) is a strategic approach aimed at managing production and operational processes efficiently while minimizing negative environmental impacts, enhancing social well-being, and maintaining long-term profitability. Its core principles include waste reduction, more efficient resource utilization, and the adoption of eco-friendly innovations. Additionally, corporate social responsibility is an integral part of this approach, requiring organizations to consider the social impact of their operations (Saputra et al., 2023). SOM is closely linked to Green Supply Chain Management (GSCM), which encompasses practices such as reducing the use of hazardous raw materials, implementing recycling initiatives, and managing product life cycles more responsibly to enhance environmental sustainability while improving overall operational efficiency and competitiveness. Technology plays a crucial role in supporting SOM, as innovations like renewable energy and energy-efficient production technologies drive more sustainable operations. Studies indicate that investing in green technology can yield long-term benefits, including lower operational costs and increased productivity, while also helping companies meet sustainability targets demanded by consumers and regulators (Tan & Syahwildan, 2022). Furthermore, risk management and regulatory compliance are essential in SOM implementation, requiring companies to adhere to environmental laws on waste management and greenhouse gas emissions. Beyond avoiding legal penalties, compliance can enhance corporate reputation among the public and investors, positioning organizations to better navigate future challenges related to regulatory uncertainties and climate change.

Dynamic Archival Information System (SIKD)

The rapid advancement of technology has significantly improved human activities, making tasks more efficient and accessible. However, this progress also impacts the field of archiving, necessitating immediate attention. As the demand for efficient information services grows, libraries play a crucial role in providing quick and easy access to information (Zulaikha, 2000:1). Every institution inevitably generates archives as part of its daily administrative activities, serving as records of all conducted operations. For organizations requiring fast services with large volumes of archives, modern tools are essential for effective archive management. The Dynamic Archival Information System (SIKD) is designed to efficiently manage and store information within organizations, enabling flexible adaptation to evolving data needs. Unlike traditional static archival

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systems, SIKD offers faster and easier access to information while integrating advanced technologies such as digital storage and automated search functions (Prasetyo & Husna, 2021). This system typically includes database-driven storage, advanced search tools, version management, and security settings, allowing users to retrieve necessary information quickly without navigating disorganized physical or digital records. By enhancing productivity and efficiency, SIKD minimizes the risk of data loss or mismanagement. Additionally, it supports integration with other organizational systems, such as document management or content management systems, fostering a more connected and cohesive information ecosystem. Ultimately, SIKD serves not only as an archival management tool but also as a vital component of an organization's information infrastructure, facilitating interdepartmental collaboration and data-driven decision-making (Fendy Cuandra et al., 2023).

Operation Performance

Operational performance is a key metric used to assess an organization's efficiency and effectiveness in achieving its established goals. It involves analyzing various operational aspects, including productivity, quality, cost, and customer satisfaction. Regular monitoring of operational performance enables organizations to identify areas for improvement, refine processes, and track progress toward strategic objectives (Aditya & Lunarindiah, 2023). One critical element of operational performance is productivity, which measures the ratio between an organization's output and the inputs required to produce it. Outputs may include manufactured goods, services provided, or overall performance, while inputs consist of resources such as labor, raw materials, and equipment. Enhancing productivity allows organizations to generate more output with the same amount of input or reduce input consumption while maintaining output levels. In addition to productivity, quality is another essential aspect of operational performance, referring to the degree of excellence or the extent to which a product or service meets customer expectations.

High-performing organizations implement standardized quality measures, quality control processes, and employee training programs to ensure consistent product or service excellence (Vivi Widyanti, 2019). Monitoring operational performance involves collecting and analyzing relevant operational data, such as production output, customer satisfaction levels, production costs, and process efficiency. This data helps identify trends, patterns, or issues that may impact performance, enabling organizations to take corrective actions. A widely used approach for performance monitoring is the

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implementation of Key Performance Indicators (KPIs), which serve as measurable metrics to evaluate an organization's progress toward its goals. Information technology plays a crucial role in tracking and enhancing operational performance, with management information systems (MIS) and analytical software facilitating efficient data collection, storage, and analysis. These tools allow organizations to monitor performance in real-time, quickly detect issues or opportunities, and proactively implement improvements. Furthermore, advanced technologies such as automation and artificial intelligence contribute to increased process efficiency, cost reduction, and improved product or service quality.

Fishbone Diagram

The fishbone diagram, or Ishikawa diagram, is a visual tool for analyzing the causes of a problem. Introduced by Dr. Kaoru Ishikawa in the 1960s as part of quality management in Japan, it resembles a fish skeleton, with the problem at the "head" and its causes branching from the "spine." Key categories—methods, people, machines, materials, environment, and measurement—structure the analysis (Sakdiyah et al., 2022). Widely used in manufacturing, healthcare, and education, it helps identify defects, improve quality, and analyze performance issues (Durroh et al., 2023). Studies highlight its effectiveness in organizing causes, fostering deeper discussions, and identifying root problems, especially when combined with brainstorming (Kasim et al., 2021). In Dynamic Archival Information System (SIKD) implementation, factors like employee competency (Wahyudi, 2018), procedural transitions (Robbins & Coulter, 2020), undigitized materials, and IT infrastructure (Thompson, 2018) impact system efficiency. Overall, the fishbone diagram remains a simple yet effective tool for structured problem-solving and informed decision-making.

RESEARCH FRAMEWORK

Based on the description and explanation of theoretical investigations and hypotheses, a research model can be created which is used in this research. This research model is shown in the following figure:

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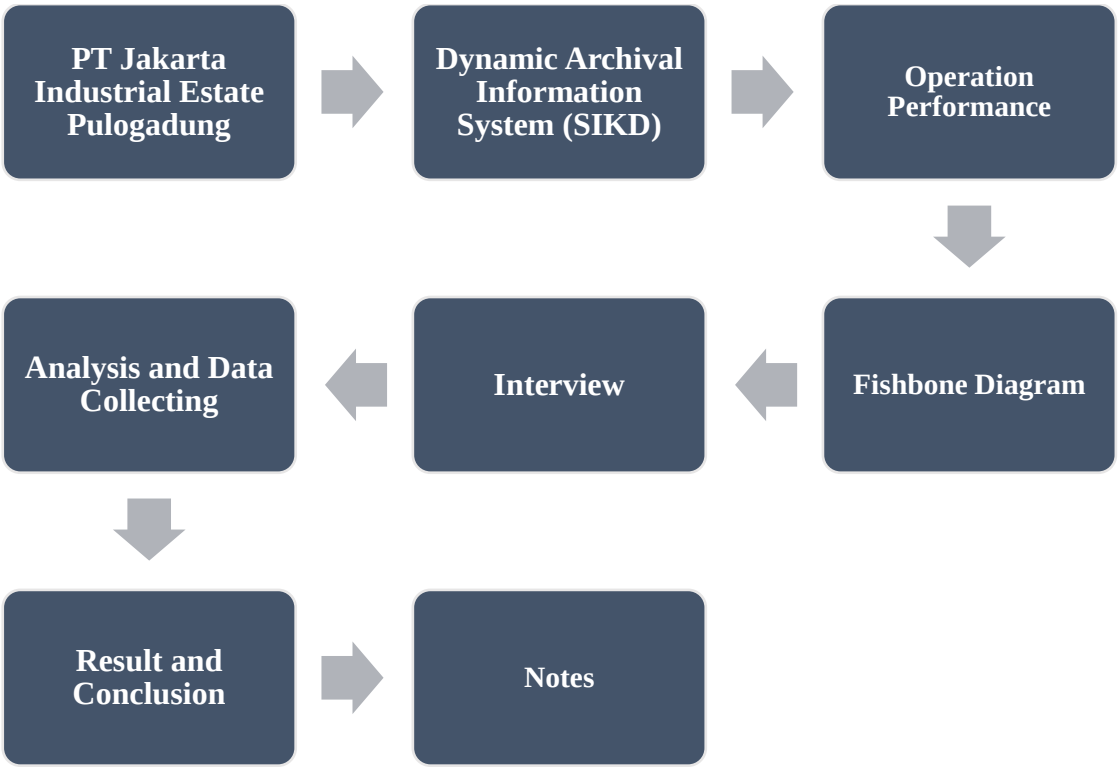


Figure 1. Research Framework

RESEARCH METHODS

The research adopts a qualitative approach, focusing on the formulation of research problems that can be associative, descriptive, or comparative. The qualitative method is used to explore the research object with sensitivity toward emerging issues and is later identified with relevant theories. This phenomenological approach allows researchers to interpret observed phenomena while providing a structured understanding of the data. The study employs a descriptive research design, specifically analyzing the impact of the Dynamic Archival Information System (SIKD) on operational effectiveness. A case study approach is used, where data is collected through direct observation and interviews with employees of PT Jakarta Industrial Estate Pulogadung (PT JIEP), particularly in the Corporate Strategy and Planning division.

The study gathers primary data through observations and face-to-face interviews with selected employees, including senior and junior staff members. Observations are

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conducted throughout the internship period, focusing on the effectiveness of SIKD usage. The interview method follows established research guidelines (Rachmawati, 2007), ensuring structured data collection. The analysis employs the Fishbone Diagram to systematically identify factors affecting SIKD implementation, categorizing causes into People, Methods, Machines, and Materials. The research findings are validated through a thorough review of interview responses, which offer deeper insights into employee perspectives on SIKD adoption and operational efficiency.

RESULTS

During a four-month internship at PT Jakarta Industrial Estate Pulogadung (PT JIEP), the researcher actively gathered relevant information to compile reports and a final internship project. Assigned to the Corporate Strategy and Planning Division, the primary focus was on understanding and supporting the company's strategic initiatives aimed at improving operational efficiency. In the first month, starting on February 12, 2024, the researcher studied the division's approach to corporate planning and its role in ensuring smooth business operations.

Additionally, the researcher examined the implementation of the Dynamic Archival Information System (SIKD) used for electronic document and correspondence management. This system was analyzed in terms of its effectiveness in improving archival processes and supporting overall corporate performance. As part of this learning process, the researcher also explored data analysis and report preparation methods used to evaluate corporate strategies, providing valuable insights for managerial decision-making.

To gain a deeper understanding of the system's effectiveness, the researcher conducted interviews with key personnel in the Corporate Strategy and Planning Division who had direct experience with SIKD. The data collected from these interviews served as the foundation for evaluating the system's impact on operational efficiency. Respondents were selected based on their involvement with the system, ensuring that the data obtained was both relevant and representative. The selection process utilized purposive sampling, which allowed for targeted insights into SIKD implementation.

The findings revealed that SIKD significantly improved document management efficiency by transitioning from manual to digital archiving. Important documents, such as official letters and internal memos, could now be scanned and uploaded into the system, reducing paper usage and streamlining administrative tasks. Features such as document templates and categorization further enhanced workflow efficiency. Moreover, SIKD

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strengthened document security through user-based access controls and classification according to confidentiality levels. Integration with the National Archives of the Republic of Indonesia (ANRI) ensured compliance with national archival standards.

Despite these benefits, several challenges were identified in SIKD implementation. The most prominent issue was unstable internet connectivity, which frequently disrupted document uploads, especially for large files. Additionally, the system's monotonous interface contributed to user fatigue, and a lack of comprehensive training hindered employees from fully utilizing its features. To address these challenges, improvements such as enhanced technological infrastructure, interface updates, and ongoing employee training are necessary. These measures would optimize SIKD's functionality and further support PT JIEP's operational effectiveness.

DISCUSSION

The implementation of the Dynamic Archival Information System (SIKD) at PT Jakarta Industrial Estate Pulogadung (PT JIEP) was driven by the need to enhance archival management efficiency and operational effectiveness. Previously, the company relied on manual archival processes, which were time-consuming, labor-intensive, and often hindered administrative workflows and decision-making speed. The transition to a digital system addressed these challenges by enabling efficient document storage, retrieval, and management with just a few clicks. This shift not only accelerated administrative processes but also aligned with the company's digital transformation strategy by reducing paper usage and increasing transparency. Supporting previous research by Siregar (2019), this study confirms that digitalizing archives significantly improves accessibility and accelerates administrative workflows, ultimately contributing to enhanced operational efficiency.

The adoption of SIKD has had a substantial impact on operational effectiveness, particularly by expediting document retrieval processes. Previously, locating specific records could take a considerable amount of time, whereas with the implementation of SIKD, this process is now completed within seconds, leading to improved employee productivity. Additionally, the system's standardized templates have streamlined document creation, ensuring consistency in administrative processes and reducing delays caused by formatting inconsistencies. Another significant advantage is the system's ability to support data-driven decision-making by providing real-time access to relevant information, thereby enabling faster and more informed managerial decisions. This finding aligns with Sholeh and Fatkhiyah's (2020) study, which highlights the role of

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integrated digital systems in improving operational efficiency through real-time data accessibility.

Despite its advantages, the implementation of SIKD at PT JIEP has faced several challenges. One of the primary technical obstacles is unstable internet connectivity, which affects the performance of the cloud-based system and disrupts workflow continuity. As noted by Octaviyana and Soewito (2023), network instability is a common challenge in large-scale technology adoption. Additionally, the system's user interface lacks engagement, leading to reduced employee participation and lower adoption rates. Without an intuitive and visually appealing design, employees may experience fatigue and reluctance in using the system. Another significant barrier is the lack of adequate employee training, which results in underutilization of the system's features. According to Pebrina et al. (2022), continuous training is essential to ensuring that employees can effectively operate information systems and maximize their benefits.

To further analyze the challenges associated with SIKD implementation, a Fishbone Diagram approach was utilized, categorizing issues into four key areas: Human, Methods, Machines, and Materials. The human-related challenges include inadequate employee training and resistance to transitioning from manual to digital processes, which hinder the system's full adoption. Methodological issues stem from unstandardized archival procedures and a lack of internal policies supporting system optimization. Machine-related challenges involve technological infrastructure constraints, such as unstable internet connections and outdated hardware that requires upgrades. Lastly, material issues include incomplete and poorly integrated archival data, as well as inconsistencies in digital document formatting. To optimize SIKD implementation, PT JIEP must adopt a holistic approach, incorporating cross-departmental collaboration, continuous employee training, policy development, technological improvements, and regular data validation. By addressing these factors, the company can fully leverage SIKD to achieve more efficient and effective archival management.

CONCLUSION

The implementation of the Dynamic Archival Information System (SIKD) at PT Jakarta Industrial Estate Pulogadung (PT JIEP) aims to address inefficiencies in manual archival management by enhancing accessibility, security, and document organization through digital transformation. The Fishbone analysis highlights key factors influencing SIKD adoption, including human aspects such as employee readiness and training, methodological aspects requiring alignment between traditional and digital procedures,

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technological infrastructure needs, and material aspects concerning data completeness and consistency. The system has significantly improved operational efficiency by reducing document retrieval time, standardizing administrative processes, and supporting data-driven decision-making while promoting sustainability through paper reduction. However, challenges persist, including resistance to change, insufficient training, unstable internet connectivity, and infrastructure limitations, which require strategic solutions to optimize SIKD's effectiveness. By addressing these challenges systematically, PT JIEP can maximize the benefits of digital archiving and ensure long-term operational improvements.

RECOMMENDATION

Based on the analysis conducted during the internship program, the implementation of the Dynamic Archival Information System (SIKD) at PT Jakarta Industrial Estate Pulogadung (PT JIEP) has significantly improved the company's operational effectiveness. However, several technical and non-technical challenges still need to be addressed to optimize the system. To enhance SIKD implementation, recommendations based on the Fishbone Diagram analysis include four key aspects: People, Methods, Machines, and Materials. Efforts should focus on intensive employee training, awareness programs, and motivation strategies to ensure effective system utilization. Standardizing procedures, conducting regular evaluations, and integrating SIKD with other management systems will improve workflow efficiency. Additionally, upgrading technological infrastructure, ensuring system security, and performing regular maintenance are crucial for reliability. Lastly, accelerating document digitization, verifying data accuracy, and establishing standardized archival formats will enhance accessibility and consistency. By implementing these recommendations, PT JIEP can overcome existing challenges, maximize SIKD efficiency, improve employee productivity, and strengthen overall operational effectiveness.

MANAGERIAL IMPLICATIONS

The managerial implications of this study highlight the need for a structured and proactive approach in optimizing the implementation of the Dynamic Archival Information System (SIKD) at PT Jakarta Industrial Estate Pulogadung (PT JIEP). To fully leverage the benefits of digital archiving, management must prioritize continuous employee training, change management initiatives, and motivation strategies to foster system adoption and minimize resistance. Standardizing archival procedures and integrating

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SIKD with other enterprise systems will enhance operational efficiency and data consistency. Furthermore, investment in stable internet infrastructure, cybersecurity measures, and regular system maintenance is essential to ensure reliability and security. Addressing these aspects strategically will not only optimize SIKD's functionality but also contribute to long-term organizational efficiency, improved decision-making, and sustainable business practices through enhanced document management and reduced paper dependency.

RESEARCH LIMITATIONS

This research has several limitations that should be acknowledged. First, the study primarily focuses on the implementation of the Dynamic Archival Information System (SIKD) at PT Jakarta Industrial Estate Pulogadung (PT JIEP), which may limit the generalizability of findings to other organizations with different archival management structures and technological infrastructures. Second, the analysis relies on qualitative observations and Fishbone Diagram assessments, which, while valuable, may not fully capture the quantitative impact of SIKD on operational efficiency. Additionally, challenges such as employee resistance, insufficient training, and infrastructure limitations were identified, but their long-term effects on system adoption and performance require further investigation. Lastly, external factors such as regulatory changes and advancements in digital archiving technology were not extensively analyzed, which could influence the system's future adaptability. Future research should consider broader case studies, longitudinal data collection, and a combination of qualitative and quantitative approaches to provide a more comprehensive understanding of digital archival system implementation.

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