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Digital Archive Management of Polri SuperApp Online SKCK: An Efficiency Evaluation of Information Retrieval Based on ISO 16175-1:2020

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ABSTRACT

This study evaluates the application of the ISO 16175-1:2020 standard in improving digital archive management within the online Police Record Certificate (SKCK) system integrated into the Polri SuperApp at the Bener Meriah Resort Police. Using a qualitative case study approach, data were collected through interviews, observations, and document analysis. The findings show that the Polri SuperApp meets most of the functional requirements outlined in ISO 16175-1:2020, particularly in the areas of record creation, discovery, use, access control, and processes related to duplication and redaction. The system effectively enhances information retrieval efficiency through its comprehensive metadata-driven search capabilities and strengthens data security through two-factor authentication, encryption mechanisms, and detailed activity logs. However, the research also identifies notable limitations, especially in terms of system interoperability. The lack of seamless integration between the Polri SuperApp and external systems restricts efficient data exchange. Furthermore, features related to search result personalization and external collaboration require further development. Overall, the study concludes that the Polri SuperApp has made a positive contribution to transparent and accountable digital archive management in public services. Nonetheless, more extensive system integration and functional enhancement are necessary to achieve optimal information retrieval efficiency and fully support public service delivery.

Keywords: Digital archive management; ISO 16175-1:2020; Information retrieval system

1. INTRODUCTION

Archive management is a crucial element in supporting the efficiency and effectiveness of organizational operations, including police institutions. Archives not only serve as administrative evidence but also as a source of information that can be used to support

decision making, transparency, and accountability. According to the International Council on Archives, effective archival practices enhance institutional memory, ensure the protection of citizens rights and contribute to good governance (International Council on Archives, 2008). In a broader sense, archives data are increasingly recognized as part of knowledge infrastructures that sustain research, governance, and innovation across institutions (Borgman et al., 2018).

In the context of public service such as the issuance of Police Clearance Certificate (SKCK), good archive management is essential to ensure the smooth flow of administrative processes and public services. The Police Clearance Certificate (SKCK), previously known as the Statement of Good Conduct (SKKB), is an official statement issued by the Indonesian National Police (Polri) through its Intelligence and Security Unit function to an applicant to explain the presence or absence of a criminal record based on police records (JDIH BPK, 2023).

In the digital era, conventional archive management faces various challenges. Before adopting digital platforms, police institutions generally faced significant vulnerabilities to physical damage of archives, limited storage space, and difficulties in document retrieval (information retrieval). Conventional systems still used in some police institutions often lead to inefficiencies in the information retrieval process. Information retrieval encompasses all aspects related to the structure, analysis, storage, searching, and retrieval of information. Information retrieval is used to retrieve documents that match a user's given query (keyword) within a collection of documents (Kaban et al., 2023). Similar challenges have been get in, where the lack of proper recordkeeping policies and limited staff competencies reduced the effectiveness of ERMS implementation (Norolazmi et al., 2018).

Several previous studies have discussed archives referring to information retrieval. Subdit IV Renakta Ditreskrimum Polda Lampung highlighted that the electronic archive management system was not integrated, slowing down access to needed documents (Pitaloka, Bintang and Yuliawati, 2022). To address this issue, optimizing digital archive management becomes a strategic solution. A similar situation occurred at Polsek Tanjungpinang Timur, which examined dynamic archive management within the Polri environment and found that obstacles such as limited storage space and the lack of a digital archive management system hindered the effectiveness of archive searching and utilization. This research emphasizes the importance of archive digitalization and controlled access management to enhance information retrieval efficiency in supporting police duties (Adelia & Putra, 2024).

Meanwhile, a number of previous studies in various countries show that digital archive transformation is a global issue that has received widespread attention. For example, a study in China by (Yang et al., 2020) reveals that the digitalization of nation archives is able to improve data accessibility, transparency, and security, although it still faces constraints in terms of interoperability and metadata standards. Then, in Kenya (Musembe et al., 2025) highlight the utilization of virtual reality and augmented reality technologies by national archival institutions to expand public access to digital archives, as well as strengthen long-term preservation efforts. Similarly, (Sandy Payette, 2014) highlights that the state of digital archiving technologies continues to evolve, particularly in addressing long-term preservation challenges, which remain central to sustaining reliable access over time. From a national policy perspective, a study in Canada by (Millar, 2017) shows the importance of regulatory support and digital curation strategies in the management of federal government archives, including the implementation of open access and information security standards.

These various case studies underscore the urgency for police institutions to transform their archive management system to overcome inefficiencies, security risks, and access limitations inherent in conventional systems. The implementation of digital-based archiving systems enables more secure, organized, and easily accessible data storage. By leveraging information technology, police institutions can improve the efficiency of administrative processes and public services. For example, the implementation of the E-Archive system at the Polri Lemdiklat Administration Education Center has shown significant benefits in supporting the main tasks and functions of related word units (Indi Ratika Puri, 2024).

The ISO 16175-1:2020 guidelines serve as an international standard providing guidance for digital records management. This standard emphasizes records management principles, including document classification, data security, and ease of information access. Implementing ISO 16175-1:2020 can help police institutions ensure that their digital records are well managed in accordance with operational needs and applicable regulation (ISO 16175-1:2020, 2020). Therefore, the introduction of the Polri SuperApp with its online Police Clearance Certificate service is a strategic response by Polri to the demands of the digital era and international records management standards.

This research aims to identify and analyze the optimization of digital records management in the online Police Clearance Certificate system at the Bener Meriah Resort Police by applying the ISO 16175-1:2020 guidelines. The novelty of this research in its focus on improving information retrieval efficiency through an international standard that has not been widely addressed in the context of regional police. By applying these guidelines, it is hoped that online Police Clearance Certificate services can become faster, more accurate, and more efficient, thereby supporting the principles of good governance in public services. This aligns with findings from (Micheal, 2022), who highlight that the adoption of electronic records management best practices in Malaysia significantly enhances organizational efficiency, strengthens accountability, and improves public service delivery.

Overall, the optimization of digital records management not only supports the improvement of public service quality but also strengthens the transparency and accountability of police institutions in carrying out their duties. The findings highlight the importance of adopting international standards such as ISO 16175-1:2020 to ensure interoperability, security, and efficiency, which can serve as a reference for public institutions worldwide, particularly in both developing and developed countries, in enhancing transparency, accountability, and service delivery through digital transformation.

2. METHODS

This research used a qualitative method with a case study approach. According to John W. Creswell, a case study approach is a research strategy used to explore and understand social phenomena in real life context through in depth analysis of one or more specific cases. This approach is highly suitable for obtaining a comprehensive understanding of complex issues (Creswell et al., 2007).

Case studies have been widely recognized as a method to gain deep contextual understanding, (Stake, 1995) also emphasize that case studies allow researchers to focus on bounded systems, capturing both the uniqueness and complexity of the case under investigation. The design is a single case study focusing on the Police Clearance Certificate (SKCK) system integrated into the Polri SuperApp. The research subjects are one head unit

and one IT technician from the Intelligence and Security Unit, responsible for managing online SKCK digital records.

Data collection used structured interviews, observations, and document analysis. Interviews applied purposive non-probability sampling to select informants with relevant expertise. Purposive sampling is common in qualitative case studies as it enables the selection of participants who provide the richest information (Lawrence A. Palinkas et al., 2016). The details of the informants involved in this research, are presented in table 1 below:

Table 1. Table of informants

No	Informants	Work Unit	Capability
1	D	Head of Intelligence and Security Unit	Policy decision-making and supervision in online Police Clearance Certificate
2	H	Part of Intelligence and Security Unit	IT technician online Police Clearance Certificate

Observations were conducted to examine digital records management in Polri SuperApp SKCK services using a mobile phone. Document analysis included literature reviews and official ISO 16175-1:2020 guidelines as the study framework (Robert K. Yin, 2014). Document analysis is considered an effective qualitative method for contextualizing interview and observation data (Bowe, 2009).

This research focuses on application of the "Discovery, Use and Sharing" aspect of ISO 16175-1:2020 in the management of electronic records within the Polri SuperApp environment. This evaluation focused on the functional aspects within section R4, which are discovery, use and sharing. Specifically, R4.1 search, retrieval, presentation, use and interoperability, R4.2 access restrictions and permissions, and R4.3 are duplication, extraction and redaction.

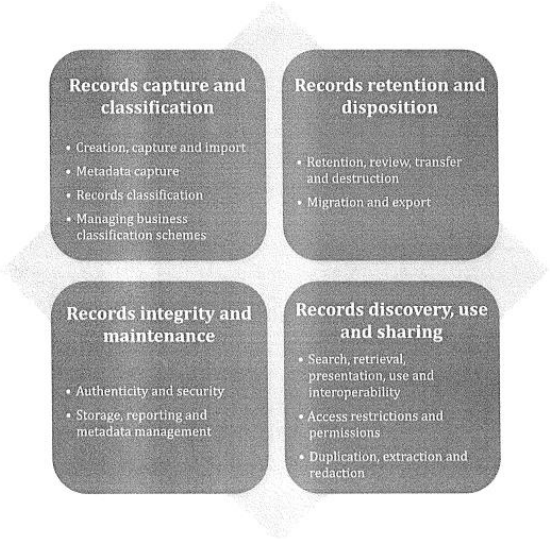

Figure 1. Key outcome areas of ISO 16175-1:2020

The checklist referred to the "shall," "should," and "may" requirements of ISO 16175-1:2020 to assess how well system features align with international standards. This guideline serves as a benchmark for evaluating efficiency in discovery, use, and sharing of information,

especially in information retrieval. Other aspects, such as records capture, retention and disposition, and integrity maintenance, were excluded from this research.

Data analysis applied (Matthew B. Miles, 1994) model, consisting of data reduction, display, and conclusion drawing. In the first stage, interview transcripts, observation notes, and documents were reviewed and summarized to emphasize aspects most relevant to ISO 16175-1:2020. In the second, the reduced data were organized into descriptive narratives to identify themes and patterns, particularly compliance with ISO standards and its impact on efficiency and accountability in SKCK services. In the third, conclusions were drawn by identifying recurring findings and verifying them across interviews, observations, and documents, ensuring validity and reliability. This iterative process provided an in-depth understanding of how applying ISO 16175-1:2020 in Polri SuperApp influenced information retrieval efficiency and public service delivery at Bener Meriah Resort Police.

3. RESULTS AND DISCUSSION

The evaluation of the Polri SuperApp application, especially the online Police Clearance Certificate digital records management system, was conducted to assess the application's effectiveness in optimizing information retrieval based on the ISO 16175-1:2020 standard. The evaluation also identified some shortcomings, such as the less-than-optimal system interoperability and personalization of search results by users. The result was carried out through interviews, observations, and document analysis within the Bener Meriah Resort Police environment.

A summary of the Polri SuperApp's evaluation results against ISO 16175-1:2020 is presented in table 2.

Table 2. Evaluation of Polri SuperApp in discovery, use and sharing

R4. Discovery, use and sharing	Obligation	Data source
R4.1 Search, retrieval, presentation, use and interoperability		
The business application **shall**, either alone or in conjunction with other applications: R4.1.1 provide agents with tools for searching and retrieving records and metadata; R4.1.2 extract and render records in a usable format; R4.1.3 be able to integrate and interoperate with other information systems which have the appropriate functionally where the business application is itself unable to undertake records processes.	 ✓ ✓ ×	Interview, observation,and document analysis.
The business application **may**, either alone or in conjunction with other applications: R4.1.4 support use by mobile devices; R4.1.5 allow agents to configure the application for personalized records views, searches or presentation services; R4.1.6 allow for collaboration with external third parties and for the sharing of records and/or metadata with external platform, networks, services and collaborative workspace; R4.1.7 be able to make approved data stored within the application available for harvesting by external services and applications as linked open data via an application protocol interface using protocols such as OAI-PMH or CMIS.	 ✓ × × ✓	
R4.2 Access restrictions and permissions		
The business application **shall**, either alone or in conjunction with other applications: R4.2.1 apply security and access restrictions ensuring that only authorized agents can access records appropriate to their access rights; R4.2.2 apply security and access protocols to protect the content of records and their metadata from unauthorized access, alteration or destruction; R4.2.3 create and maintain access, usage and security metadata, generating secure event logs for each specific record/record aggregation documenting access to and use of records.	 ✓ ✓ ✓	
R4.3 Duplications, extraction and redaction		
The business application **shall**, either alone or in conjunction with other applications:		

R4.3.1 support mechanisms to enable the authorized duplication of records or extracts of records for use either within the application itself or in other applications and/or organizations, in accordance with pre-determined business rules.	✓	
The business application **should**, either alone or in conjunction with other applications: R4.3.2 allow the creation of an extract from a record, whereby sensitive information is removed or hidden from view in the extract, while the originating record remains intact, ensuring metadata documenting the extracting action are generate and captured.	✓	

Building upon the summary presented in table 1, the following section provides a comprehensive evaluation of the Polri SuperApp effectiveness in optimizing online Police Clearance Certificate digital records management, specifically in relation to the ISO 16175-1:2020 standard. This detailed analysis will elaborate on the application's performance across various functional requirements, including those for information retrieval, access restrictions, and the duplication and redaction of archives, identifying areas of compliance as well as opportunities for future enhancement.

R4.1 Search, retrieval, presentation, use and interoperability

The research findings indicate that the Polri SuperApp has met the mandatory R4.1.1 and R4.1.2 requirements of ISO 16175-1:2020 for digital records. The application provides metadata-based search features, such as name, NIK (National Identity Number), and purpose, allowing users to find online Police Clearance Certificate documents quickly and accurately. Documents are displayed in an easily accessible and readable PDF format without altering their content structure, this supporting information retrieval efficiency. These findings were through interviews with the IT technician, who explained the daily use of metadata-based search, observation of the system interface, which showed the PDF display format, and document analysis, which confirmed compliance with ISO 16175-1:2020 requirements.

However, the R4.1.3 requirement of the Polri SuperApp has not fully met the standard. Although it uses API's, the intersystem integration mechanism is not yet optimal and has not been standardized. Consequently, digital records cannot be automatically accessed by external systems that require them. This limitation was consistently noted in interviews with head units and confirmed through observation, where interoperability features were not fully functional. This condition hinders cross application data exchange and highlights the need for interoperability development to support the smooth overall management of digital records.

Figure 2. Metadata display on online Police Clearance Certificate systems

Regarding the optional "may" requirements in the search, presentation, and interoperability aspects, the Polri SuperApp has met several important indicators. Based on an observation, the application is accessible via Android and iOS devices and includes online

Police Clearance Certificate status notifications features, enhancing ease of access and user experience on R.4.1.4. IT staff further confirmed that these notification features support real-time service update. However, the search personalization feature R.4.1.5 remains limited, users cannot yet save preference or customize the display of search results according to individual needs.

Furthermore, external collaboration with third parties on R.4.1.6 is not yet fully available, although the Polri SuperApp has prepared an Application Programming Interface (API) mechanism that supports the potential for inter-agency data integration. Document analysis and interviews with IT technicians indicated that the API is currently restricted to internal use, allowing only limited and verified data access. With the API allowing limited, verified data access, the application has met the advanced interoperability aspect on R.4.1.7. Further development is still needed for the application to provide a more inclusive and flexible information retrieval system.

R4.2 Access restrictions and permissions

The Polri SuperApp has met all mandatory "shall" requirements of R.4.2, pertaining to access restrictions and permissions in ISO 16175-1:2020. The application implements a multi-layered security system, including two-factor authentication, role-based access control, data encryption during transit and storage, and secure audit logging of user activities on R.4.2.1. Based on interviews with the head unit, these layered security mechanisms are applied consistently across online Police Clearance Certificate services, ensuring that only authorized users can access sensitive information. Then, R.4.2.2 requirements also enforces a strict privacy policy to maintain the confidentiality of records and metadata from unauthorized access or alteration.

Document analysis of Polri's internal guidelines and system conventional showed that access permissions are linked directly to user roles, reducing the possibility of data misuse. The application also automatically records access metadata each time a user accesses a service. This metadata includes the time, type of service, and user activity, which is useful for auditing and detecting security breaches. Both interviews with IT technicians and audit trail documentation confirmed that this metadata feature has been actively used in monitoring and detecting user activity. With this feature, R.4.2.2 requirements not only technically supports archive security but also promotes transparency and accountability through real time activity tracking.

Figure 3. Main screen of Polri SuperApp

R4.3 Duplications, extraction and redaction

The aspect of duplication, extraction, and redaction of archives has met mandatory "shall" requirements of R4.3.1. The application provides features for duplicating archives, such as online Police Clearance Certificate in PDF format, and supports the creation of archives by concealing sensitive information according to Polri's business rules. This was confirmed through interviews with the IT technician, who explained that redaction is routinely applied to applicants' personal identifiers, while observations of the system demonstrated how duplication and PDF generation are executed directly through the application interface. Document analysis of system conventional also verified that these functions were designed in compliance with Polri's operational guidelines. This feature allows data to be used legitimately and securely across various internal and interagency platforms.

Last, the process of redacting sensitive information is also accompanied by metadata documentation that records who made the changes, when they were made, and what was altered. Interviews with system administrators revealed that this metadata is automatically linked with security logs, and document analysis showed how access to redacted data is limited only to authorized roles. This metadata is integrated with security systems and restricted access to ensure data protection. Through these measures, the Polri SuperApp is deemed to have met the recommendations of R.4.3.2, as it effectively maintains the confidentiality of personal data while ensuring compliance with privacy regulations and information security.

Based on the research findings, this study is in line with previous research on the implementation of digital innovations in Polri's public services. (Ananda & Anggalini, 2024) investigated the adoption of the Polri SuperApp in Polres Pasaman for the provision of online Police Clearance Certificates (SKCK). Their results showed that the Polri SuperApp facilitated efficiency, ease of use, and service innovation, particularly for younger generations, although its implementation still faced challenges such as limited internet connectivity and the public's readiness to adapt to digital services. These findings highlight that while the Polri SuperApp has great potential to transform public service delivery, its effectiveness also depends on infrastructure readiness and user adaptability. In the context of this research at Bener Meriah District Police, the evaluation focuses more specifically on the application of ISO 16175-1:2020 requirements to assess how far digital records management supports information retrieval efficiency, transparency, and accountability.

R4.1 Search, retrieval, presentation, use and interoperability

Research results indicate that the mandatory (shall) requirements for digital records search, retrieval, and presentation within the Polri SuperApp comply with the ISO 16175-1:2020 standard, whereas the interoperability aspect has not been fully met. Nevertheless, with its efficient search features and secure data usage, the application remains capable of improving the efficiency of Polri public service and strengthening transparency and accountability in electronic archive management.

R4.1.1 Polri SuperApp possesses search tools that facilitate users in finding and retrieving archives and related information. This search feature helps locate files or documents quickly based on initial date, end date, search keywords (name, NIK, and purpose), payment, and type to display metadata related to online Police Clearance Certificate applications. This aligns with (Kaban et al., 2023), who states that information retrieval is used to find documents corresponding to a user's given query (keyword request) within a collection of documents.

R4.1.2, the Polri SuperApp can open and display documents in an easily readable and usable format, such as PDF, which is a standard format accessible across various devices without altering the content or structure of the document. The aim is to ensure that files remain intact, undamaged, and readable by authorized parties. In the context of police digital records management, (Riasti et al., 2013) opinion reinforces this finding, suggesting that the implementation of an information retrieval system can accelerate the online Police Clearance Certificate search process, reduce access time, and improve result accuracy.

4.1.3, if the primary application is unable to manage archives optimally, then systems like the Polri SuperApp should be able to connect and collaborate with other systems possessing similar functionalities to ensure the smooth management of digital records. This aligns with the theory in ISO 16175-1:2020, which asserts that applications must support cross-domain and cross-platform interoperability, enabling collaboration between organizations or work units without technical barriers. Although it uses an Application Programming Interface (API), the API implementation is not yet standardized and remains sub-optimal in supporting inter-system interoperability. These findings of this study are in line with previous evaluations of electronic records management systems using ISO standards. (Pramudyo & Mayesti, 2023) evaluated the ARTERI Electronic Records Management System (ERMS) based on ISO 16175-1:2011 and found that, while several functional requirements were successfully implemented, the system still faced challenges in metadata consistency, interoperability, and ensuring long-term preservation. These results show that the implementation of ISO 16175 standards often reveals both strengths and gaps, which require continuous adaptation to organizational needs and technological changes.

Next, there are optional (may) requirements regarding search, retrieval, presentation, use, and interoperability.

R4.1.4 Polri SuperApp can be downloaded from via the Google Play Store for Android devices and the App Store for iOS devices, making it easier for the public to access various police services via mobile phones. Research by (Musembe et al., 2025) explains that effective digital records management requires the application of advanced technology to improve fast and accurate access. In line with this, the Polri SuperApp offers convenience for users in accessing service online.

R4.1.5, this application is designed for ease of access and use, however there are limitations regarding display personalization. Users can perform searches based on specific criteria such as name or national identity number, but there are no features yet available to customize the display of search results or save search preferences individually. This limits the user experience in accessing information tailored to their needs. According to (Hellmer, 2023), a deep understanding of user needs is required to create an effective information retrieval system that facilitates users in finding the information they need.

R4.1.6, in addition to personalization, limitations are also evident in terms of external collaboration. Currently, there are no explicit features available that support collaboration with third parties outside the police environment for openly sharing archives or metadata. This condition hinders cross application data exchange and highlights the need for interoperability development to support the smooth overall management of digital archives. Nevertheless, there is potential for data integration with other systems within the police environment and government agencies through the already prepared Application Programming Interface (API). Research by (Campmas et al., 2022) explains interoperability is

widely recognized as a key enabler for digital public services, reducing redundancy and fostering trust by allowing seamless data exchange across agencies.

R4.1.7, currently the Polri SuperApp provides an Applications Programming Interface (API) that allows external systems to retrieve approved data, in accordance with the principles of restricted access. (Pratama, 2024), asserts that the implementation of such a system can accelerate time by up to 60% and improve employee performance by up to 40% through fast and transparent data access.

R4.2 Access restrictions and permissions

There are mandatory (shall) requirements for access restrictions and permissions in the Polri SuperApp to ensure that only authorized officers can access archives according to user access rights. In the context of the Polri SuperApp, applying this principle is crucial for maintaining the integrity and confidentiality of police data.

R4.2.1, the Polri SuperApp implements security and access restrictions to ensure that only authorized agents can access archives according to user access rights. The ways in which this application implements security and access restrictions are: user authentication, where Polri SuperApp must use a strict authentication process, including the use of two-factor authentication. Users must enter a combination of username and password, along with a verification code sent via SMS or email, before they can access the application. This ensures that only authorized individuals can log into the system. This prevents unauthorized access to data, even if there is an attempt to branch the system. This practice is consistent with global experience in digital records management, where (Katuu, 2016) emphasizes that strong authentication and access control mechanisms are fundamental to protecting the integrity and confidentiality of records in a complex digital environment.

R4.2.2, the Polri SuperApp implements security protocols and access controls to protect the contents of archives and metadata from unauthorized access, alteration, or destruction. In the context of this application, the implementation of these principles is crucial for maintaining the security of personal data and sensitive information managed by the system. The Polri SuperApp also has a strict privacy policy, which ensures that user data will not be shared with third parties without explicit permission from the data owner. According to (Sumardiyono, 2019), organizations can ensure that archive management systems not only meet operational needs but also support data integrity and security.

R4.2.3, beyond technically maintaining archive security, digital records management systems are also required to have the capability to record and maintain access, use, and security metadata. In this regard, the Polri SuperApp has implemented automatic metadata recording each time a user accesses or uses services within the application. This metadata includes information such as access time and the type of service used to document the trail of user activity. This is evident from the system's ability to monitor who accessed the data and when such access occured. (Farahdiba et al., 2024) states that one of the positive impacts of digital records management is increased data security and compliance with regulations.

R4.3 Duplications, extraction and redaction

The mandatory (shall) requirements for duplication, extraction, and redaction in the Polri SuperApp are governed by ISO 16175-1:2020 to ensure data can be used effectively and efficiently across various platforms and by authorized parties.

R4.3.1, the Polri SuperApp provides archive duplication features, allowing users to download documents in PDF format for administrative or legal purposes. This aligns with the

benefits of digital records in cost savings and accelerated document access. The application also supports the creation of archive excerpts where sensitive information can be hidden or removed before being shared with third parties, for instance, when sharing KTP numbers or addresses to protect privacy. The process of duplicating and sharing archives follows business rules established by Polri, ensuring structure and secure data usage. In line with this, (Kamble & Trivedi, 2023) emphasizes that adopting an information life-cycle perspective strengthens duplication and redaction practices by ensuring that sensitive data is managed transparently and that every modification remains traceable and auditable throughout the record's life span.

Last, the recommended (should) requirement for duplication, extraction, and redaction in the Polri SuperApp.

R4.3.2, the process of creating archive excerpts by deleting or concealing sensitive information within the Polri SupeApp is a crucial implementation of digital records management. The primary purpose of this process is to protect private and confidential information and to ensure compliance with privacy and data security regulations. Every action of redaction is documented in the archive's metadata, including who performed the action, when it was done, the type of information concealed, and the reason for the modification. This includes implementing strict access controls, data encryption, and security measures to protect archives from unauthorized access. This is in line with (Andayani, 2017), who emphasizes that effective digital archive management within ERMS requires metadata-driven control and structured redaction processes to safeguard sensitive information and ensure accountability.

4. CONCLUSION

The findings show that the application has significantly improved retrieval efficiency by meeting key mandatory requirements, providing effective tools for searching and accessing archives and metadata, and enabling the extraction and presentation of records in usable formats. Its advanced search functions, supported by comprehensive metadata, facilitate quick and accurate retrieval, while the availability of readable PDF outputs, mobile access, and API-based data provision further strengthens accessibility.

However, the study also identifies areas for improvement, particularly in system interoperability. Limited standardization in integrating external applications restricts automatic data exchange, reducing efficiency within a broader digital ecosystem. Enhanced personalization features for search and display would also improve user experience and relevance of retrieved information. Security and access control mechanisms, such as strict authentication, role-based permissions, metadata protection, activity logging, duplication controls, and redaction features, substantially reinforce the reliability and integrity of information retrieval.

Overall, the Polri SuperApp has demonstrated clear effectiveness in improving information retrieval for digital records management. Future optimization will depend on strengthening interoperability and personalization to deliver more integrated, responsive, and user-centered public services.

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AUTHORS' CONTRIBUTIONS

Khairunnisa: Writing oiginal draft preparation. Ideas; formulation or evolution of overarching research goals and aims. **Taufik Asmiyanto:** Supervision. Ideas; formulation or evolution of overarching research goals and aims.

CONFLICT OF INTERESTS

We state that there are no known conflicts of interest linked with this publication, and that there has been no significant financial assistance for this work that could have influenced its outcome.

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