Digital Archives Management System for Archives Security at the Balai Pemberdayaan Industri Persepatuan Indonesia (BPIPI)

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Abstract. This research aims to design and implement a digital archive management system using Microsoft Access to support archive handling at the BPIPI. The study was motivated by the institution's continued use of manual archiving, which has led to difficulties in document retrieval, weak classification, and a lack of data security. The system was developed by applying Microsoft Access as the core platform, supported by Visual Basic for Applications (VBA) to handle input validation, login control, and archive retrieval functions. The research employed an action research methodology encompassing planning, action, observation, and reflection stages. System evaluation was conducted using the System Usability Scale (SUS), involving 11 respondents from various work units. The results showed an average SUS score of 80, indicating that the system was "Very Feasible" for daily use. These findings affirm that Microsoft Access can serve as an effective digital archiving solution for government institutions by offering structured classification, access control, and ease of use without complex infrastructure requirements.

Keywords: *Digital Archive, Microsoft Access, BPIPI Archive, System Usability Scale, VBA.*

INTRODUCTION

Archives management is a crucial element in organizational administrative governance. Archives serve not only as administrative documentation but also as a basis for decision-making and institutional accountability (Purwanto & Rusdiyanto, 2020); (Supriadi & Andriyani, 2021). Rapid information technology, digitized archives have become a strategic need to increase efficiency and data security.

Research by Supriadi & Andriyani (2021) emphasizes the importance of access control and authorization in digital archiving systems to maintain the security and confidentiality of archives. This reinforces the urgency of developing digital systems that not only function as storage but also guarantee access authority between users. Various previous studies have noted the limitations of manual archiving systems, (Farida & Desinaini, 2022)showing that conventional methods create obstacles in document classification and retrieval. This is reinforced by findings (Syarifatunnisa & Firmansyah, 2023) that emphasize that digitalization can increase the effectiveness of archive management in the public sector. By leveraging the potential of technology, the transformation to a digital system is a logical effort to improve the quality of archival services.

Several studies have explored the use of Microsoft Access as an alternative solution for archive management. (Vicentius, 2023)This platform offers flexibility and ease of use in dynamic archiving. Research from (Cyndya & Mujayana, 2023); (Permansah, Indrawati, & Muhtar, 2025); (Prasetyo & Lestari, 2020)also supports the effectiveness of integrating Access and VBA in building a structured archive system. The study (Amelia & Mubarok & Nurjanah, 2021)adds that a simple Access-based e-archiving system can deliver optimal results in private companies with limited budgets.

This research combines approaches from previous studies to develop a Microsoft Access-based digital archives management system at BPIPI. The system aims to improve the existing manual system by adding access control, data validation, and digital form-based search features.

Taking into account local needs and resource constraints, this study adopted an action research methodology that allows for iterative improvements directly in the workplace. Thus, this research is expected to make a tangible contribution to the

development of digital archiving systems in medium-sized government agencies.

METHOD

In developing the archive classification system, this study also referred to Regulation of the Head of the National Archives of the Republic of Indonesia (Perka ANRI Number 6 of, (2019) which serves as the legal basis for developing dynamic archive classifications in government agencies. The researchers applied these classification principles to the design of a Microsoft Access-based system.

The approach used is a reflective and cyclical action research approach. The model used refers to Kemmis and McTaggart, (1988)which divides it into four stages: planning, action, observation, and reflection. This approach was chosen because it allows for direct system testing within the BPIPI work environment.

Figure 1. Microsoft Access-Based Digital Archive System Development Flow

This figure illustrates the stages of system development, starting from identifying archive needs, designing the database and user interface, to implementing and evaluating the system through user feedback.

In the planning stage, researchers conducted observations and interviews to identify problems with the manual filing system. The action stage involved building a Microsoft Access-based digital system. Key features were developed using VBA for input validation, login control, and archive search. Observations were made during system use by employees from various units. Reflection was conducted by collecting user feedback through a System Usability Scale (SUS) questionnaire to evaluate the system's usability and usability.

RESULTS AND DISCUSSION

The digital archives management system was tested through a series of simulations with 11 respondents from various work units. The testing process included user login, archive data input, archive search, and system logout. Each respondent was asked to use the system according to the provided procedures and then complete a System Usability Scale (SUS) questionnaire.

Table 1. SUS Evaluation Scores by Respondents

No	Management Unit/Field	SUS Score	Category
1.	Head company of BPIPI	80	Very Worth it
2.	Head to Tu administration	80	Very Worth it

3.	Secretariat	82.5	Very Worth it
4.	Archives	77.5	Decent Enough
5.	Finance	80	Very Worth it
6.	Head of Product Development and Promotion (P3)	80	Very Worth it
7.	Staff of Product Development and Promotion (P3)	82.5	Very Worth it
8.	Head of Empowerment and Mentoring Section for Small and Medium Enterprises (P2IKM)	80.	Very Worth it
9.	Staff of Empowerment and Mentoring Section for Small and Medium Enterprises (P2IKM)	80	Very Worth it
10.	Head of Entrepreneurship, Partnership and Industry 4.0 (PPK INDI 4.0)	77.5	Decent Enough
11.	Staff of Entrepreneurship, Partnership and Industry 4.0 (PPK INDI 4.0)	80	Decent Enough
Average		80	Decent Enough

Based on the SUS scores from 11 respondents representing various work units at BPIPI, the evaluation results indicate that the system is highly suitable for use, as illustrated in Figure 2.

Figure 2. Interpretation of Visual Score SUS 82 – “Very Feasible” Category

Figure 2. This presents a visual interpretation of the results of the usability evaluation using SUS with an average score of 80, indicating the level of system feasibility is in the "Very Feasible" category based on the Brooke scale (1996).

These results indicate that the developed system meets the criteria for convenience and ease of use for BPIPI users. This visual interpretation reinforces the quantitative measurement results that support the effectiveness of the system's implementation.

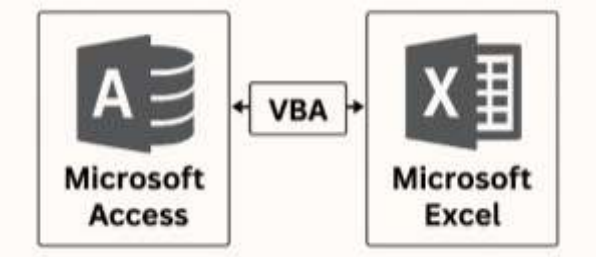

Figure 3. Digital Archive Management System Integration Structure (Access–VBA–Excel)

This figure shows how Microsoft Access is used as the primary database, VBA as the program logic, and Excel as the archive export medium for distribution across work units. This structure demonstrates the synergy between simple software components yet is capable of meeting the agency's functional needs.

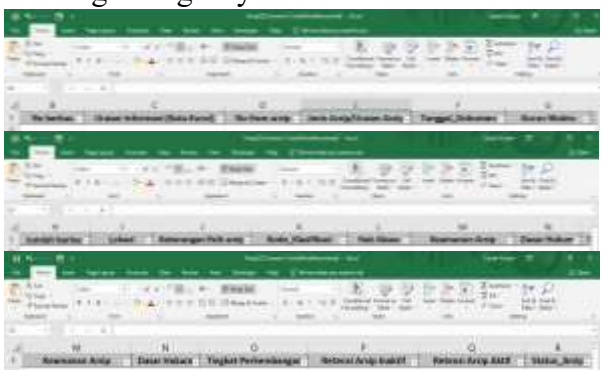

Figure 4. Input Form Archives Screenshot

This view shows the input interface.
A user-friendly archive interface tailored to BPIPI's archive classification. Users can directly enter data and perform searches using the quick search field. This interface is designed to simplify daily archive processing without requiring special training.

These results are in line with the findings (Wahab, Ayu, Syahputra, & Sajiah, 2024); (Vicentius, 2023)which emphasize the importance of adopting simple digital systems to improve the efficiency of archival services in medium-sized public institutions.

CONCLUSION

A Microsoft Access-based digital archives management system was successfully designed and implemented at BPIPI. The system includes login, structured input, classification, access authorization, and archive search features. With VBA support, the system can be easily operated by users from various backgrounds.

The average SUS score of 80 indicates that the system is operationally feasible and can improve the efficiency and security of archives management in government agencies. This system could be an effective alternative solution, especially for mid-sized institutions that lack advanced technological infrastructure.

SUGGESTION

It is recommended that this system be further developed by adding expiration reminder features and automatic backups. Future research could explore integration with e-office or web systems to improve data scalability and accessibility. A barrier encountered during the implementation process was some employees' unfamiliarity with the Access application, so additional training is recommended.

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REFERENCES

Amelia, D., & Mubarok & Nurjanah, I. (2021). Simple E-Archive Innovation Based on Microsoft Access at PT. X. *Journal of Economics Research,* , 3(2), 25–32.

Brooke. (1996). *SUS: A "Quick and Dirty" Usability Scale. In P. W. Jordan, B. Thomas, B. A. Weerdmeester, & A. L. McClelland (Eds.), Usability Evaluation in Industry (pp. 189–194).* London: London : Taylor & Francis.

Cyndya, A., & Mujayana, M. (2023). *Archives Management Using Microsoft Access in the D3 Office and Secretarial Computerization Study Program.* Surabaya: Institute of Business and Informatics STIKOM Surabaya.

Farida, Y., & Desinaini, LN (2022). Designing a Microsoft Access-Based Administration Letters and Archives System at BPJS of Employment Regional Office of East Java. Matrix: *Journal of Technology and Informatics Management,* , 11(1), 42–54.

Indonesia., AN (2019). *Regulation of the Head of ANRI Number 6 of 2019 concerning Guidelines for Dynamic Archives Management.* Jakarta: ANRI.

Kemmis, S., & Mc Taggart, R. (1988). *The Action Research Planner.* Australia: Victoria Deakin University Press.

Permansah, S., Indrawati, CD, & Muhtar. (2025). Microsoft Access-based E-Archive for Improvement of Student Learning Outcomes of Archiving. *International Journal of Education and Social Science Research.* , 6(2), 45–52.

Prasetyo, E., & Lestari, T. (2020). Utilization of Microsoft Access as an Archiving Information System.

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Journal of Information and Library Science , 9(1), 15–22.

Purwanto, P., & Rusdiyanto, W. (2020). Dynamic archive management at the National Land Agency (BPN) Office, Klaten Regency. *Efficiency: A Study of Administrative Science,* , 17(1), 42–54.

Supriadi, D., & Andriyani, E. (2021). Analysis of Microsoft Access Usage in Letter Filing Systems. *Journal of Information Management* , 3(1), 55–63.

Syarifatunnisa, & Firmansyah. (2023). Creating an Electronic Filing System Based on Microsoft Access at PT Mitra Rajawali Banjaran. *ResearchGate. Retrieved from* , 25 - 30.

Vicentius, YR (2023). Utilization of Microsoft Access in document archiving at PT Kertarajasa Raya. *Journal of Information Science and Archiving* , 10(1), 33–42.

Wahab, A., Ayu, N., Syahputra, MT, & Sajiah, AM (2024). Development of the Arwip KWH Information System in Southeast Sulawesi Using the Agile Method Based on Excel Macro VBA. *Journal of Informatics Engineering Students* , 23-24.