

Digital transformation of Islamic cooperatives by cloud-based reporting system

Syaiful Amrial Khoir

Information Teknologi, Institut Teknologi dan Bisnis Muhammadiyah Grobogan, Jawa Tengah, Indonesia

Article Info

Article history:

Received : Aug 12, 2025
Revised : Sept 13, 2025
Accepted : Sept 29, 2025

Keywords:

Digital Transformation;
Islamic Cooperative;
Cloud Computing;
Google Workspace;
On-Call Contract Reporting System.

ABSTRACT

Digital transformation is a strategic necessity for Islamic cooperatives, enabling them to improve service quality and operational efficiency. This study aims to develop and implement a cloud-based on-call contract reporting system at BMT Insan Mandiri as part of its digitalization strategy for services. The research method employed a case study approach by comparing two system models: an offline system based on Microsoft Office and an online system utilizing Google Workspace, which integrates Google Form, Google Spreadsheet, and Google Mail. The implementation of Google Workspace enables the recording and distribution of contract reports to be carried out in real-time, well-organized, and automatically documented. The findings reveal that the cloud-based online system is more effective in supporting operations, as reports can be accessed instantly, directly distributed to operational managers via email, and enhance both transparency and accountability. Furthermore, both employees and management expressed stronger preferences for the online system due to its ease of use and reliability. These findings affirm that the utilization of cloud technology, particularly through the Google Workspace ecosystem, can serve as a strategic step in the digital transformation of Islamic cooperatives, thereby strengthening efficiency, accountability, and service quality.

This is an open access article under the [CC BY-NC](#) license.



Corresponding Author:

Syaiful Amrial Khoir
Information Teknologi, Institut Teknologi dan Bisnis Muhammadiyah Grobogan
Jl. Gajah Mada Gg. Nyai Walidah No.4, Majenang, Kuripan, Kec. Purwodadi, Kabupaten Grobogan, Jawa Tengah 58111
Email: amrilkhoir@itbmg.ac.id

1. INTRODUCTION

The rapid advancement of digital technology over the past decade has brought profound changes across various sectors, including Islamic microfinance institutions. Digital transformation is no longer perceived merely as a trend, but rather as an urgent necessity to enhance operational efficiency, broaden service accessibility, and strengthen organizational competitiveness (Qothrunnada et al., 2023). Within the context of Islamic cooperatives, digitalization is expected to foster more accountable governance, increase transparency, and deliver faster services to members. According to Fadhilah (Fadhilah, n.d.), digital service adoption plays a pivotal role in sustaining the viability of microfinance institutions in the era of disruption. Nevertheless, scholarly literature that specifically addresses digital transformation in Islamic cooperatives remains limited.

One of the major challenges faced by Islamic cooperatives lies in the management of financing contracts, which are not always conducted at the office but are often carried out on call, depending

on members' needs. This process requires an accurate and real-time recording and reporting system to ensure that information is readily available for management. However, many cooperatives still rely on manual or semi-digital systems based on office software, which are prone to reporting delays, data redundancy, and low information accuracy (Muku et al., 2024). His condition underscores the necessity for innovation in information systems to support the smooth execution of financing contracts.

The advancement of cloud computing technology offers significant opportunities to address these challenges. Cloud computing enables the storage, processing, and distribution of data to be carried out efficiently through the internet with a high degree of flexibility (Amrial Khoir & Tanuji, n.d.). Among the most widely adopted cloud platforms is Google Workspace, which encompasses Google Forms, Google Spreadsheets, and Google Mail. Prior research has indicated that the utilization of Google Workspace improves the effectiveness of data recording and reporting across diverse sectors, including education and non-profit organizations (Hafid & Barnoto, 2022). The key advantages of this platform are its seamless application integration, user-friendly collaboration features, and automation capabilities, all of which can effectively support the operational needs of organizations with limited resources.

Although numerous studies have examined the digitalization of financial services and the utilization of cloud technology, research that specifically highlights the implementation of cloud-based on-call contract reporting systems in Islamic cooperatives remains scarce. Most studies tend to focus on general aspects of digital services or on microfinance institutions at large, without addressing the distinctive needs of community-based Islamic cooperatives. Thus, there exists a research gap in the context of cloud computing adoption that is relevant for enhancing transparency and efficiency in financing contract reporting within Islamic cooperatives.

Based on the aforementioned background, this study focuses on the development and evaluation of a cloud-based on-call contract reporting system using Google Workspace, with BMT Insan Mandiri as the case study. The originality of this research lies in the integration of a cloud platform to support real-time reporting of on-call contracts in Islamic cooperatives, which has not been extensively explored in previous studies. This study aims to design, implement, and analyze the effectiveness of a cloud-based contract reporting system to improve operational efficiency, information transparency, and the quality of services provided to members of Islamic cooperatives.

2. METHOD

This study employs a case study approach on the Islamic Cooperative BMT Insan Mandiri. The case study method was selected because it provides an in-depth understanding of the implementation of a cloud-based on-call contract reporting system within the real organizational context (Chalisa Majiding & Muh Syukur Hidayatullah, n.d.). This study employs a case study approach on the Islamic Cooperative BMT Insan Mandiri. The case study method was selected because it provides an in-depth understanding of the implementation of a cloud-based on-call contract reporting system within the real organizational context.

2.1 Research Respondents

The research respondents consisted of seven branch managers and one central operations manager, selected using a purposive sampling technique. This selection was based on their authority to conduct financing contracts outside the office (on call) as well as their direct involvement in supervising and receiving reports.

2.2 Research Data

The data collected in this study consisted of: Qualitative data, obtained through semi-structured interviews regarding user experience, satisfaction levels, and challenges in system implementation. Quantitative data, including the number of reports, error rates in data entry, average input time per report, and the speed of report distribution. The main research variables include: Effectiveness (accuracy and completeness of report data); Efficiency (speed of data entry and report distribution); User satisfaction (perceptions of branch and central managers).

2.3 Research Procedure

The research was conducted over two months in two stages: The first stage utilized a manual reporting system based on Microsoft Office. The second stage employed a cloud-based system using

Google Workspace. A comparison of the results from both stages was carried out to assess differences in effectiveness, efficiency, and user satisfaction.

2.4 Data Analysis

The qualitative data were analyzed using thematic analysis techniques (Kualitatif Heriyanto, 2018), Meanwhile, the quantitative data were analyzed using a descriptive-comparative approach to examine changes in the indicators before and after the implementation of the cloud-based system. The validity of the findings was strengthened through triangulation between interview results and documentary evidence from the reports.

2.5 Research Ethics

All respondents were provided with an explanation of the research objectives and signed an informed consent form to participate. The confidentiality of respondent data was strictly maintained and used solely for academic purposes.

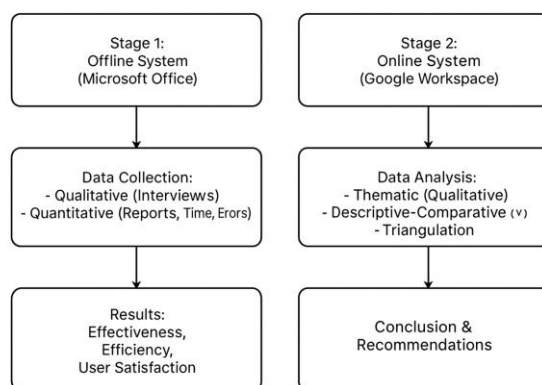


Figure 1. Research Method Flowchart

Figure 1. Research method flowchart, consisting of two main stages: the implementation of the offline-based contract reporting system (Microsoft Office) and the online-based system (Google Workspace). Data were collected through a qualitative approach (interviews) and a quantitative approach (number of reports, input time, error rate), then analyzed using thematic and descriptive-comparative techniques. The research results focused on effectiveness, efficiency, and user satisfaction to formulate conclusions and recommendations.

To clarify the stages carried out in this research, the researcher prepared a summary of the research method in the form of a table. This table contains the research stages, instruments used, types of data collected, and analytical techniques applied. With this summary table, readers can more easily understand the research flow starting from the implementation of the offline reporting system, the application of the Google Workspace-based system, to the evaluation and formulation of improvement recommendations.

Table 1. Summary of Research Method

Research Stage	Instruments/Tools	Data Collected	Analysis Technique
Implementation of the Offline Contract Reporting System	Microsoft Office (Excel, Word)	Number of manual reports, input time, and error rate in recording	Descriptive analysis (comparing processing time and error rates)
Implementation of Online Contract Reporting System	Google Workspace (Form, Spreadsheet, Email)	Number of automated reports, input speed, error rate, ease of access	Thematic analysis combined with descriptive-comparative methods
Interviews with Users	Interview Guidelines	Users' perceptions of effectiveness, efficiency, and satisfaction	Qualitative thematic analysis
Evaluation & Formulation of Recommendations	Synthesis of Research Findings	Results of measuring effectiveness, efficiency, user satisfaction, and system improvement needs	Interpretation and formulation of recommendations

The results presented in the table demonstrate that each approach possesses unique characteristics and distinct implications for the effectiveness of contract reporting. Offline-based systems tend to encounter classical challenges, including limited processing speed, data redundancy, and the likelihood of recording errors. Such limitations contribute to delays in the distribution of reports to management and may ultimately undermine the quality of decision-making. These findings are consistent with the perspectives of Anwar (Anwar et al., 2017), which emphasize that traditional information systems tend to be less responsive in supporting the needs of dynamic organizations

In contrast, online-based systems integrated with cloud services offer substantial advantages in terms of accessibility, process automation, and reporting accuracy. Such strengths not only enhance the operational efficiency of cooperatives but also reinforce the principle of transparency, which constitutes a fundamental pillar of governance within Islamic financial institutions. This observation is consistent with the findings of (Mardiyati et al., 2025), which asserts that the adoption of cloud computing enhances operational efficiency, organizational flexibility, and the overall quality of services.

Furthermore, insights gathered from user interviews offer an additional perspective on user experience, as respondents emphasized that the integration of Google Workspace helps streamline workflows such as data entry, validation, and report distribution, which aligns with findings that digital tools can significantly enhance operational efficiency (Dwivedi et al., 2021). Several respondents also pointed out the need for continuous training to ensure effective adoption of the system, reinforcing the argument that technological transformation is highly dependent on human resource readiness (Rachmawati & Maulida, 2022).

This supports the notion that technology adoption should not be viewed merely as an infrastructural upgrade but as a process tied to organizational capability and adaptability (Mariani & Wamba, 2021). Additionally, the comparative analysis supported by qualitative and quantitative insights aligns with recent studies showing that cloud-based systems can improve transparency and accountability within Islamic financial institutions (Hakim & Abdullah, 2023). Thus, these findings validate the need for a cloud-based contract reporting system, as digital technologies increasingly contribute to strengthening governance and performance in Islamic cooperatives (Suryani et al., 2024), as also noted by Anatan (2023).

3. RESULTS AND DISCUSSION

3.1 Research Findings

The findings of this study are presented through tables, graphs, and visual documentation illustrating the implementation of the system. The key results reveal a significant distinction between the manual (offline) reporting system and the digital reporting system utilizing Google Forms (online). A more detailed comparative overview is provided in Table 2 below

Table 2. Comparison of Offline and Online On-Call Contract Reporting Systems

Aspect	Offline System (Microsoft Office)	Online System (Google Workspace)
Weekly report volume	Fourteen reports	Seventeen reports
Errors in reporting	2 errors (typos, incomplete data)	0 errors — structured form ensures completeness & accuracy
Average reporting input duration	12 minutes — opening MS Office, typing, attaching photos, saving	5 minutes — open Google Form, fill, auto-save, PDF generated, emailed
Report delivery time to the central office	Weekly — after printout submission to the head office	Real-time — instantly received by email after submission
Reporting effectiveness	Typo-prone, occasional incomplete data	More accurate, complete data per Google Form fields
Reporting efficiency	Manual, slow, infrequent submissions	Fast, automated, frequent reporting
Perceived user satisfaction	Perceived as complicated, slow, and impractical	Majority satisfied — faster, transparent, user-friendly (1 senior less familiar)

The results of this study reveal significant differences between the offline on-call contract reporting system (Microsoft Office-based) and the online system (Google Workspace: Google Form, Spreadsheet, Mail). The quantitative evidence is illustrated in the graph below.

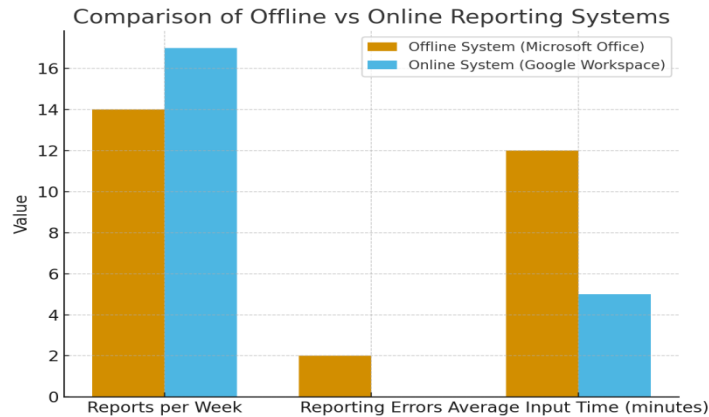


Figure 2. Quantitative Comparison Chart of Reporting Systems

The chart in Figure 2 illustrates a significant difference between the offline reporting system (Microsoft Office) and the online system (Google Workspace) in the Islamic Cooperative. In terms of weekly report volume, the online system was able to enhance productivity, increasing the average number of reports from 14 to 17 per week. Additionally, the error rate in reporting decreased substantially, from 2 errors in the offline system to zero errors in the online system, thanks to the more standardized form structure.

The aspect of time efficiency is clearly evident, as the average report input time decreased from 12 minutes to only 5 minutes per report. Furthermore, report distribution, which previously took up to one week, can now occur in real-time, thereby supporting greater transparency and faster decision-making. From the user satisfaction perspective, the majority of respondents perceived the online system as more practical, faster, and transparent, although some senior respondents experienced minor adaptation challenges due to limited familiarity with technology. These findings reinforce that the utilization of Google Workspace can enhance the effectiveness, efficiency, and service quality in the on-call contract reporting process within the Islamic cooperative.

Furthermore, the system implementation documentation is presented through the system workflow, input forms, and the automated report outputs in PDF format, which are sent to the operational manager: The system workflow is illustrated in Figure 3.

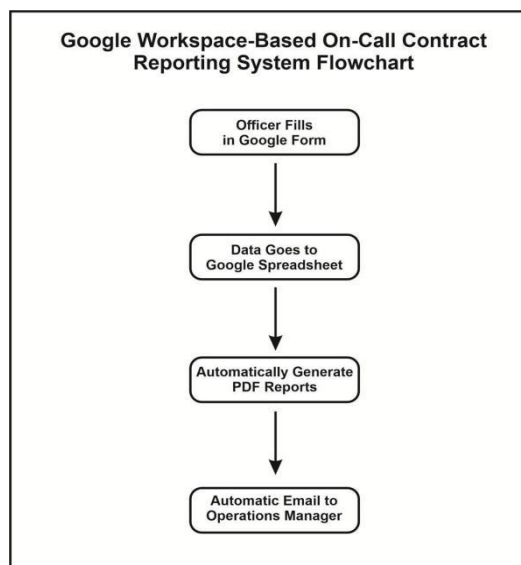


Figure 3. Workflow Diagram of the On-Call Contract Reporting System Based on Google Workspace

Through this mechanism, the reports submitted by the staff are immediately stored in a Google Spreadsheet, automatically converted into PDF format, and subsequently delivered to the operational manager's email. This system significantly reduces reporting delays, which in the previous offline system could reach an average of one week. The input form system employing Google Form is illustrated in Figure 4.

The image shows a Google Form interface for recording financing contracts. The title is "FORM AKAD ON CALL CAB. GEMOLONG". Below the title is a brief description: "Form ini merupakan fasilitas pendataan resmi yang disediakan oleh BMT Insan Mandiri guna mencatat dan mendokumentasikan seluruh proses akad on call." The form contains several input fields: "NAMA PETUGAS AKAD" (Text answer), "LOKASI AKAD" (Text answer), "JENIS PEMBIAYAAN" (Radio button options: Murabahah, Ijarah, Mudharabah, Lainnya...), and "TANGGAL PENCAIRAN" (Date picker). The form is styled with a blue header and a white background.

Figure 4. Interface of the Google Form Input Form

The figure presents the design of a Google Form–based input system employed as a medium for recording financing data in the sharia cooperative. The form functions as the primary interface through which staff members input information related to financing contracts, thereby ensuring a more structured and systematically documented process. In the initial section, the input system provides fields to record the officer's name and the location of the contract, allowing each transaction to be traced based on the responsible officer and the venue of execution. Furthermore, options are available to record the type of financing agreed upon as well as the disbursement date, which serves as a reference for the realization timeline. For member identification, the Google Form includes fields for recording the member's name, gender, and complete address. Such information is crucial to ensure that member profiles are accurately documented and may subsequently be employed for demographic analysis and administrative compliance purposes. Moreover, a specific section is designated to capture collateral-related information, including the type of collateral, its appraised value, and the realized financing amount. This feature is intended to ensure that each financing transaction is accompanied by comprehensive documentation of the collateral provided by the member.

The form also supports the input of survey photos and disbursement photos, serving as visual evidence of field activities while simultaneously enhancing the accountability of the financing process. Finally, a special notes section is provided, enabling officers to include additional remarks, such as specific conditions of the member or evaluation results obtained during the survey. The adoption of a Google Form–based input system enables comprehensive digital collection of financing data, ensuring systematic documentation and facilitating efficient retrieval for purposes of monitoring, evaluation, and reporting. The report is generated through data processing in Google Spreadsheet, subsequently exported into PDF format, and automatically delivered to the operational manager's email, as illustrated in Figure 5.

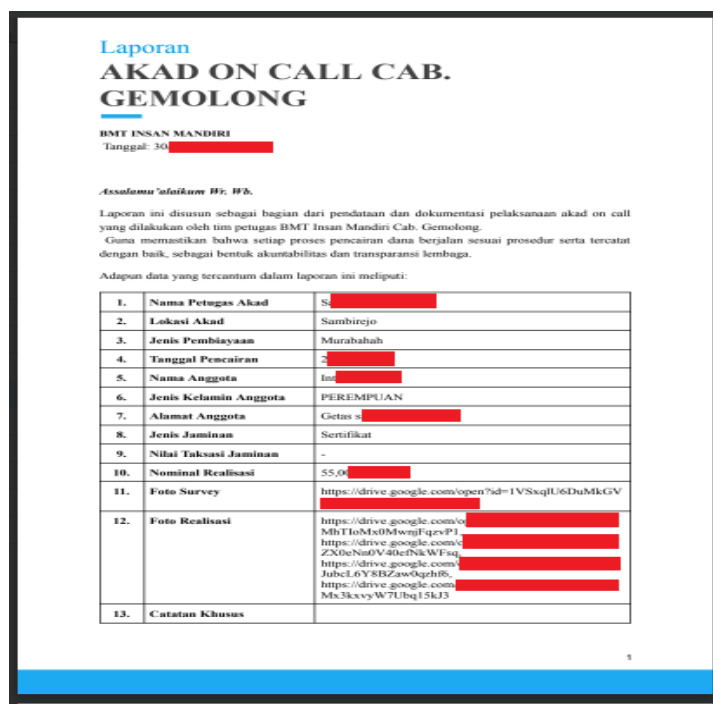


Figure 5. Report View in PDF Format

The figure illustrates the system output in the form of a PDF report that is automatically generated from data entered via a Google Form. All information provided by the officers including member identity, type of financing, collateral details, and special notes is comprehensively transformed into the report document without any data reduction. Consequently, the content of the PDF report remains consistent and aligned with the raw data recorded in the input system. The PDF report is subsequently delivered directly to the operational manager’s email, providing a rapid and well-documented means of data distribution. The availability of this document facilitates management in conducting verification, monitoring, and evaluation of financing activities. Moreover, the PDF format is selected due to its advantages in preserving data integrity, ensuring display consistency, and minimizing the risk of content alteration.

This mechanism ensures that the flow of information from field officers to the operational manager is conducted in a more effective, transparent, and well-documented manner. Such an approach not only streamlines the reporting process but also reinforces institutional accountability, as each report received by management reflects the actual data recorded in the field without modification. Consequently, the system strengthens both the reliability of information and the trustworthiness of the decision-making process within the institution.

The results of the interviews serve to strengthen the quantitative findings by further highlighting the dimensions of efficiency, accuracy, and transparency. These qualitative insights provide contextual depth, offering a more comprehensive understanding of how the system contributes to operational effectiveness and institutional accountability.

Table 3. Thematic Analysis Summary of Interview Data

Theme	Respondent Quote	Interpretation
Speed	Real-time report submission	Online system enables rapid report delivery
User-Friendliness	Form-based input without manual file handling	Google Forms offers greater simplicity than Microsoft Office
Accuracy	Well-structured data without errors or missing files	Online system ensures accuracy with minimal errors
Satisfaction	More convenient online, but initially unfamiliar to older users	Most respondents satisfied, minimal resistance from seniors
Transparency	Real-time monitoring by managers without printed reports	Strengthens accountability and operational oversight

Based on the table above, the majority of respondents indicated that the online system is faster, easier, and more accurate. However, one senior respondent (aged >50 years) reported being less familiar with the new system, although acknowledging its benefits. This finding highlights the challenge of technology adoption among specific user groups. These results are in line with Eviyanti's research (Br Barus et al., n.d.), highlighting the significance of digitizing cooperative reporting and adopting cloud computing as a means to improve efficiency.

3.2 Discussion

The results of this study consistently indicate that implementing a Google Form and Google Spreadsheet-based reporting system enhances operational effectiveness compared to traditional manual methods. This enhancement is evidenced by improved data processing speed, greater data integrity, and streamlined report distribution to management, thereby facilitating more efficient oversight and decision-making processes. Aligned with the DeLone & McLean IS Success Model, the system demonstrates high system quality (user-friendliness, accessibility), information quality (accuracy, consistency), and service quality (promptness of service). Such characteristics foster positive user perceptions, in line with the Technology Acceptance Model (TAM), which emphasizes that perceived usefulness and perceived ease of use are key determinants of new technology adoption and overall user acceptance.

Comparison with previous studies further reinforces these findings. For instance, Nurul (Fadhilah, n.d.) found that the use of digital applications enhances the efficiency of cooperative financial reporting. Ayu, Galuh, and Miftahul (Kusumaningrum et al., 2025) underscore the critical role of transparency within cloud-based reporting frameworks. On the other hand, Winda and Fathia (Apriandari et al., 2025) demonstrate that Google Workspace can serve as a practical solution for small- and medium-sized organizations. The present study aligns with these findings, while providing an additional contribution through its direct implementation in a sharia cooperative, featuring automated report generation in PDF format that adheres to managerial standards.

Nevertheless, several challenges remain, including resistance from some senior users who are less familiar with technology, as well as limited internet infrastructure in certain regions. Overall, however, the implementation of this system has been shown to positively impact operational efficiency, report accuracy, and transparency in cooperative services.

4. CONCLUSION

This study demonstrates that the implementation of the on-call contract reporting system based on Google Workspace (Google Form, Google Spreadsheet, and Google Mail) enhances operational management quality in sharia cooperatives. In terms of effectiveness, the online system produces reports that are more accurate, comprehensive, and accessible in real time. Regarding efficiency, the time required for report input and distribution is significantly reduced from an average of 12 minutes in the offline system to only 5 minutes in the online system while reports that were previously received weekly can now be accessed instantly by the operational manager. Concerning user satisfaction, the majority of respondents expressed higher satisfaction, as the system is more practical, transparent, and accountable. Thus, the Google Workspace-based reporting system has been proven to support transparency and accountability while accelerating the decision-making process. These findings make a significant contribution to the digital transformation efforts of sharia cooperatives, particularly in strengthening organizational governance and promoting more effective management practices. Based on the findings of this study, it is recommended that sharia cooperatives expand the implementation of cloud-based reporting systems to other service units, not limited to on-call contracts. Additionally, continuous support should be provided for users who are less familiar with digital technology to ensure optimal system implementation. For future research, system development can be directed towards integration with mobile applications and the addition of analytical features to support more strategic decision-making.

REFERENCES

- Amrial Khoir, S., & Tanuji, H. (n.d.). Pemanfaatan Teknologi Big Data dan Cloud Computing dalam Meningkatkan Pelayanan Koperasi Syariah (Tinjauan Literatur). 2, 122–128. <https://doi.org/10.62383/imajinasi.v2i2.626>
- Anatan, L. (2023). *Manajemen Teknologi dan Transformasi Digital dalam Organisasi*. Bandung: Alfabeta.

- Anatan, L. (2023). Micro, Small, and Medium Enterprises' Readiness for Digital Transformation in Indonesia. <https://doi.org/10.3390/economies>
- Anwar, N., Noorman Masrek, M., & Johari Abdullah Sani, M. K. (2017). A Systematic Review on the Strategic Utilization of Information Systems and IT Infrastructure Flexibility. *Communications of the IBIMA*, 1–13. <https://doi.org/10.5171/2017.518818>
- Apriandari, W., Az-Zahra, F. F., Robial, S. M., Febriani, R., Rahayu, E., Arliansyah, T. S., & Nisrina, K. (2025). Implementasi Google Workspace untuk Literasi Digital Organisasi 'Aisyiyah di Kabupaten Sukabumi. *Jurnal Pengabdian Masyarakat Indonesia*, 5(4), 715–725. <https://doi.org/10.52436/1.jpmi.3643>
- Br Barus, E., Pardede, K. M., Ananda Putri Br Manjorang, J., Pelita Nusantara, S., & Utara, S. (n.d.). Transformasi Digital: Teknologi Cloud Computing dalam Efisiensi Akuntansi. *Jurnal Sains Dan Teknologi*, 5(3), 2024. <https://doi.org/10.55338/saintek.v5i1.2862>
- Chalisa Majiding, N., & Muh Syukur Hidayatullah, A. (n.d.). Transformasi Digital dalam Praktik Akuntansi UMKM: Studi Kasus Implementasi Software Akuntansi Berbasis Cloud. *JFAS : Journal of Finance and Accounting Studies*, 7(2), 147. <https://doi.org/10.33752/jfas.v7i2.10005>
- Dwivedi, Y. K., Ismagilova, E., Hughes, L., Carlson, J., Filieri, R., Jacobson, J., & Jain, V. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168.
- Fadhilah, N. (n.d.). Transformasi Digital: Meningkatkan Kinerja Keuangan Koperasi Syariah. *Jurnal Rumpun Ekonomi Syariah*, 6(2), 2023.
- Hafid, H., & Barnoto, B. (2022). Manajemen Pembelajaran Kelas Digital Berbasis Google Workspace for Education. *Kharisma: Jurnal Administrasi Dan Manajemen Pendidikan*, 1(1), 48–58. <https://doi.org/10.59373/kharisma.v1i1.5>
- Hakim, M. A., & Abdullah, R. (2023). Cloud-based information systems and accountability enhancement in Islamic financial institutions. *Journal of Islamic Financial Technology*, 5(2), 75–89.
- Kualitatif Heriyanto, P. (2018). Thematic Analysis sebagai Metode Menganalisa Data untuk. *ANUVA*, 2(3), 317–324.
- Kusumaningrum, A. M., Aninditiah, G., & Huda, N. A. M. (2025). KOMPAK (Jurnal Ilmiah Komputerisasi Akuntansi) Transparansi Keuangan UMKM melalui Otomatisasi Akuntansi Digital Berbasis Cloud. 18(1). <http://journal.stekom.ac.id/index.php/kompak>
- Mardiyati, S., Alfin, E., & Pramarta, P. (2025). Adopsi Cloud Computing pada Usaha Mikro, Kecil, dan Menengah (UMKM). *RIGGS: Journal of Artificial Intelligence and Digital Business*, 4(1), 553–558. <https://doi.org/10.31004/riggs.v4i1.712>
- Mariani, M., & Wamba, S. F. (2021). Exploring how AI and big data analytics impact digital transformation and firm performance. *Journal of Business Research*, 124, 353–365.
- Muku, M. V., Finansius Mando, L. B., & Sara, K. (2024). SISTEM INFORMASI KOPERASI SIMPAN PINJAM BERBASIS WEB (STUDI KASUS: KOPERASI ANJELY). 9(2).
- Qothrunnada, N. A., Iswanto, J., Fitrotus, D., Hendrarti, B. G., & Subekan, S. (2023). Transformasi Digital Lembaga Keuangan Syariah: Peluang dan Implementasinya di Era Industri 4.0. *Indonesian Journal of Humanities and Social Sciences*, 4. <https://ejournal.iai-tribakti.ac.id/index.php/IJHSS>
- Rachmawati, F., & Maulida, N. (2022). Digital readiness and human resource capability in supporting technology adoption. *Jurnal Manajemen dan Bisnis Digital*, 4(1), 44–52.
- Suryani, D., Pratama, A., & Fadillah, H. (2024). Digital governance and technology adoption in Islamic cooperatives. *Jurnal Ekonomi Syariah dan Teknologi Digital*, 7(1), 12–25.