



Ethical Challenges of Information Systems in the Era of Digital Transformation

Annisa Nur Sabrina^{1*}, Muhammad Irwan Padli Nasution²

¹² Universitas Islam Negeri Sumatera Utara

Email: annisanursabrina14@gmail.com

Abstract

The rapid development of information systems in the digital era has significantly transformed the way individuals, organizations, and societies manage, store, and distribute information. The use of advanced digital technologies not only accelerates data exchange across borders but also introduces complex ethical challenges that require serious attention. Issues such as privacy violations, inadequate data protection, digital plagiarism, misinformation, and the misuse of personal information have become increasingly prominent as digital systems continue to evolve. This study aims to examine the relationship between the advancement of information systems and the rising ethical issues that accompany global digitalization. The research relies on a review of academic literature and international business practices to understand how ethical considerations shape the management of modern information technologies. The findings indicate that the integration of strong ethical principles in information system management is crucial for ensuring responsible, transparent, and sustainable technological development. To achieve this, high ethical awareness and comprehensive regulatory policies are needed so that information technology can provide maximum benefits without compromising moral responsibilities or humanitarian values. Strengthening digital ethics is essential for building trust, safeguarding user rights, and supporting a more accountable digital future.

Keywords: *System Information; Ethics; Globalization; Data Security*

Abstract: Pesatnya perkembangan sistem informasi di era digital telah secara signifikan mengubah cara individu, organisasi, dan masyarakat mengelola, menyimpan, dan mendistribusikan informasi. Penggunaan teknologi digital canggih tidak hanya mempercepat pertukaran data lintas batas tetapi juga memperkenalkan tantangan etika kompleks yang membutuhkan perhatian serius. Isu-isu seperti pelanggaran privasi, perlindungan data yang tidak memadai, plagiarisme digital, misinformation, dan penyalahgunaan informasi pribadi menjadi semakin menonjol seiring dengan terus berkembangnya sistem digital. Penelitian ini bertujuan untuk mengkaji hubungan antara kemajuan sistem informasi dan meningkatnya masalah etika yang menyertai digitalisasi global. Penelitian ini bergantung pada tinjauan literatur akademis dan praktik bisnis internasional untuk memahami bagaimana pertimbangan etis membentuk pengelolaan teknologi informasi modern. Temuan ini menunjukkan bahwa integrasi prinsip-prinsip etika yang kuat dalam manajemen sistem informasi sangat penting untuk memastikan pengembangan teknologi yang bertanggung jawab, transparan, dan berkelanjutan. Untuk mencapai hal tersebut, diperlukan kesadaran etika yang tinggi dan kebijakan regulasi yang komprehensif agar teknologi informasi dapat memberikan manfaat yang maksimal tanpa mengorbankan tanggung jawab moral atau nilai-nilai kemanusiaan. Memperkuat



etika digital sangat penting untuk membangun kepercayaan, melindungi hak pengguna, dan mendukung masa depan digital yang lebih akuntabel.

Kata kunci: *Informasi Sistem; Etika; Globalisasi; Keamanan Data*

INTRODUCTION

The rapid expansion of digitalization, characterized by the accelerated flow of information, technology, and cross border economic activity, has transformed information systems into an essential component for organizations seeking to maintain competitiveness and relevance. Advances in information and communication technology (ICT) have enabled large scale data exchange, innovative digital services, and international collaboration at unprecedented levels. However, these developments also introduce increasingly complex ethical challenges in the development, utilization, and management of modern information systems. (Sari et al., 2024)

Digitalization has significantly broadened the scope of interactions between countries and institutions, making issues such as digital intellectual property, outsourcing, data sovereignty, and cross border data transfers more critical than ever. In the Indonesian context, for instance, studies on Management Information Systems (MIS) demonstrate that although MIS is designed to support organizational performance, the use of technology must still adhere to strict ethical and legal frameworks. As Hastriana (2023) explains, information systems must reflect the moral values and ethical awareness of managers, information specialists, and system users. This finding suggests that information systems that fail to consider variations in global regulations, cultural norms, and ethical expectations may unintentionally generate ethical violations, including misuse of data, lack of transparency, or exploitation of digital content. (Prameswari & Aprianingsih, 2023)

In parallel with regulatory challenges, concepts of ethics within information systems continue to evolve alongside global digitalization. A study titled "The Importance of Understanding the Concept of MIS and Ethics in Educational Institutions" by Iano, Irsyad, and Sabandi (2024) highlights that MIS in educational environments must be accompanied by appropriate ethical guidelines to prevent negative consequences for both institutions and society. Their research argues that information systems today serve not only as instruments for enhancing efficiency and productivity but have become embedded within the broader social fabric. As a result, organizations that deploy these systems have an ethical responsibility to ensure that their operations promote social sustainability, accountability, and fairness. The absence of clear ethical foundations may cause technology to exacerbate inequality, reinforce harmful digital behaviors, or undermine institutional integrity.

Furthermore, digital transformation and globalization have introduced new ethical concerns related to data privacy, cybersecurity, algorithmic

fairness, and the social accountability of automated systems. The management of big data and artificial intelligence (AI) has further intensified these challenges. For example, a local study titled “Ethics in the Use of Network Systems for Hospital Information Systems” by Kurniawan (2024) reveals that hospital information networks in Indonesia face ethical dilemmas involving data security, confidentiality, and information integrity. As healthcare institutions increasingly depend on integrated digital systems, the scale and sensitivity of the data being managed also grow. (Mulyatini et al., 2023) Meanwhile, the speed at which data move across geographical and normative boundaries continues to increase, creating substantial risks if ethical principles and regulatory frameworks are not rigorously applied.

Taken together, these studies emphasize that globalization has reshaped the ethical landscape of information systems by intensifying the flow of data, diversifying user backgrounds, and complicating decision making processes related to digital governance. Institutions across sectors public administration, education, healthcare, business, and social services must therefore adopt ethical frameworks that are not only globally relevant but also aligned with local norms, cultural values, and legal requirements. Ethical failures in information systems may lead to severe consequences such as privacy breaches, manipulation of digital content, algorithmic discrimination, and erosion of public trust.

In this context, the present research aims to examine the relationship between the development of information systems and the ethical challenges emerging within the broader environment of globalization. The study specifically explores how organizations can integrate ethical values into the design, implementation, and governance of information systems so that technological progress supports not undermines the principles of justice, transparency, and social responsibility. To achieve this objective, the literature review focuses on identifying core ethical issues, analyzing the root causes of ethical violations in digital environments, and identifying strategic steps organizations can take to overcome these challenges. Ethical integration in information system strategies must consider multiple dimensions, including privacy protection mechanisms, data governance policies, digital literacy, stakeholder accountability, and compliance with relevant legal standards. As technological systems become increasingly embedded in everyday life, the responsibility to ensure ethical integrity becomes shared among system designers, policymakers, institutions, and end users.

This study also highlights the importance of evaluating organizational and institutional efforts in Indonesia to address ethical concerns in information systems. These efforts may take the form of government regulations, internal ethical guidelines, professional training, or technological innovations designed to improve data security and privacy protection. Understanding the effectiveness of these initiatives provides valuable insight

into how ethical challenges can be mitigated through coordinated and proactive measures. Ultimately, this research aims to provide strategic recommendations for the development of ethical, adaptive, and socially responsible information systems that align with the moral values and legal principles applicable in Indonesia. As digitalization continues to penetrate every aspect of social, economic, and institutional life, prioritizing ethics in information system management is essential not only for preventing harm but also for building an equitable and trustworthy digital ecosystem. (Wirawan & Laksito, 2024)

METHOD

This study employs a qualitative research approach using a literature review method to explore the relationship between information system development and emerging ethical challenges in the digital era. This research is descriptive in nature, aiming to clearly and systematically explain how advancements in information technology intersect with ethical issues such as data privacy, digital plagiarism, information misuse, and broader concerns related to responsible technology use. The data for this study are derived from various secondary sources, including peer reviewed journals, academic books, reputable online publications, and relevant research reports. These sources were selected based on their relevance to information system development, digital ethics, and global trends in technology governance. Once collected, the data were analyzed using content analysis techniques, allowing the researcher to identify recurring themes, patterns, and conceptual frameworks related to ethical concerns in modern digital environments. (Prasetyo & Kasiyan, 2024)

Through this analytical process, key themes such as privacy protection, data security, ethical decision making, transparency, and social responsibility were examined in depth. The findings from the content analysis were then interpreted to provide a comprehensive understanding of how ethical values can be integrated into information system practices to ensure responsible and sustainable technology management. By synthesizing insights from diverse academic and professional sources, this methodology supports a holistic examination of digital ethics and highlights the importance of establishing strong ethical foundations in the ongoing development of information systems. This approach ensures that the study remains grounded in credible evidence while offering meaningful reflections on the ethical responsibilities required in an increasingly interconnected digital world. (Rahmawati et al., 2023)

RESULTS AND DISCUSSION

Understanding Information Systems

Information systems represent an integrated combination of technology, procedures, and human resources that work together to collect, process, store,

and distribute information for effective decision making within an organization. As highlighted in the study “The Importance of Understanding Information System Management and Ethics in Educational Institutions” (Iano, Irsyad & Sabandi, 2024), educational institutions increasingly depend on information systems to manage academic records, administrative workflows, and communication channels. These systems streamline operations and create a more efficient environment for learning and institutional management. (Hidayah et al., 2024)

The study stresses that technological sophistication alone is insufficient. Without strong ethical understanding, the use of information systems may lead to serious issues, including data misuse, privacy violations, and irresponsible sharing of sensitive information. This risk underscores the need for ethical literacy among users and administrators. Moreover, information systems should be viewed not simply as technological tools but as socio technical frameworks influenced by human behavior, organizational norms, and cultural values. Effective management of an information system therefore requires more than technical expertise it calls for ethical sensitivity and accountability. Ensuring that information is used appropriately, safely, and respectfully becomes an essential responsibility for any institution that relies on digital systems in today’s interconnected environment. (Zaida, 2024)

Development of Information Systems in the Digital Era

Findings from previous studies show that the rapid advancement of information systems in the digital era has reshaped how various sectors operate, especially in education, business, and public administration. Digitalization has pushed institutions to adopt more integrated, automated, and data driven systems, enabling faster workflows, improved service delivery, and wider access to information. These innovations have made organizations more responsive, efficient, and capable of handling large volumes of data in real time. (Romandoni et al., 2024)

However, the shift toward digital systems also introduces significant ethical challenges. As highlighted in “Ethics and Law in the Implementation of Management Information Systems and Their Impact on Social and Cultural Issues within Organizations” (Hastriana, 2017), the same technologies that enhance organizational performance also raise complex questions about monitoring practices, data ownership, surveillance, and transparency. Hastriana explains that while Management Information Systems (MIS) are designed to support productivity, their presence inevitably influences the social and cultural environment of an organization. Increased reliance on technology can change the way individuals communicate, collaborate, and make decisions. It can also demand new standards of accountability and responsible behavior in digital spaces. (Mylrea & Robinson, 2023)

These developments point to a dual impact of the digital era. On one hand, digital systems enhance efficiency, accessibility, and organizational effectiveness. On the other hand, they expose institutions to higher levels of ethical risk, including potential misuse of technology, breaches of privacy, and erosion of trust among users. If organizations fail to respond to these ethical concerns with clear policies, strong governance, and continuous education, the benefits of digitalization may be overshadowed by long term social and cultural consequences. Ultimately, the evolution of information systems requires not only technological readiness but also ethical preparedness to ensure that digital transformation supports both organizational goals and human values.(Stahl et al., 2024)

Ethical Challenges in the Use of Information Systems

As information systems become increasingly integrated into daily organizational activities, a variety of ethical challenges begin to surface. These challenges are not merely technical issues but reflect deeper concerns related to human behavior, organizational culture, and societal expectations. The more an organization relies on digital systems, the more important it becomes to address the ethical risks associated with them. One of the most prominent challenges is data privacy and security. Modern information systems store vast amounts of personal, financial, and organizational data. When this information is not properly protected, it becomes vulnerable to breaches, unauthorized access, and cyberattacks. Such incidents can harm individuals, damage organizational reputation, and undermine overall trust in digital technologies. Ensuring robust cybersecurity measures, transparent data policies, and responsible data handling practices is therefore crucial.(Saputra et al., 2024)

Another significant issue involves the misuse or abuse of technology. Users may intentionally or unintentionally engage in unethical practices such as using pirated software, manipulating digital records, or exploiting system weaknesses for personal gain. These actions not only violate legal norms but also compromise the integrity and reliability of the information system itself. The misuse of technology often stems from a lack of awareness about digital ethics, highlighting the need for continuous training and stronger ethical guidelines. A further challenge relates to the digital divide, where disparities in digital access and literacy create unequal opportunities. Groups with limited technological access or skills may struggle to use information systems effectively, leading to broader social inequities. This gap raises ethical concerns about fairness, inclusivity, and equal access to technological benefits. Overall, these ethical challenges show that effective information system management requires more than technical expertise. It demands a commitment to responsible digital behavior, organizational accountability, and continuous efforts to ensure that technology serves the public good while respecting moral and human values.

a. Data Privacy and Security

One of the most significant ethical concerns is the issue of data privacy and the security of personal information. “Ethics in the Use of Network Systems for Hospital Information” (Amalia et al., 2025) highlights how hospitals in Indonesia face pressing challenges in network security, patient data privacy, and maintaining data integrity. Medical information is extremely sensitive, and any unauthorized access or data leak can lead to serious consequences for patients and healthcare providers. (Ningsih, 2024)

This issue is not limited to the health sector. Across industries, the risk of cyberattacks, identity theft, and unauthorized data sharing continues to rise. In many cases, users are unaware of how much of their personal data is collected, stored, or shared by digital platforms. This lack of transparency creates ethical tension and emphasizes the importance of stronger cybersecurity measures and clearer data governance policies. (Dhio Rizqi Novan Saputra et al., 2024)

b. Technology Abuse

Another major ethical challenge involves the misuse of technology. According to the study “Ethical Violations in Information Systems Through the Use of Pirated Software” (Jerry et al., 2023), the use of illegal or pirated software remains a widespread issue in both personal and corporate environments. Such practices not only violate intellectual property rights but also indicate low levels of ethical awareness among users regarding digital responsibility.

The use of pirated software often exposes systems to malware, security breaches, and system instability, creating a broader organizational risk. This demonstrates that ethical issues in information systems are not solely related to organizational policies but also to individual behavior and attitudes toward legality, fairness, and respect for digital creators.

c. Digital Divide

Although specific studies addressing the digital divide within information system ethics remain limited, globalization trends show that unequal access to digital technology creates significant ethical concerns. Communities with limited access to digital infrastructure such as rural areas or low income populations face disadvantages in integrating with modern information systems. This inequality prevents them from fully benefiting from digital transformation and limits their participation in information driven environments.

The digital divide also influences ethical decision making within organizations. When only certain groups have access to systems or digital skills, disparities in information literacy can emerge, affecting fairness, transparency, and equal opportunities.

The Impact of Digitalization on Information System Ethics

The rapid spread of digitalization has fundamentally reshaped information exchange on a global scale. While technology has enabled data to move across borders within seconds, it has also introduced new complexities in the ethical governance of information. This dynamic reflects a broader tension between innovation and responsibility an issue that becomes increasingly visible as digital systems integrate more deeply into social, organizational, and governmental structures. Differences in cultural values, legal regulations, and levels of technological advancement between countries create major challenges in maintaining ethical consistency. A practice that is viewed as a normal data sharing mechanism in one region may be considered an invasion of privacy in another. This disparity reveals that ethical concerns in information systems cannot be separated from cultural and societal contexts. Globalization, while offering many advantages, thus complicates the creation of universal ethical standards. (Saeidnia, 2023)

The accelerated flow of data around the world has also brought forward a range of ethical debates that were not as prominent in earlier technological eras. Among the most critical issues are data sovereignty, algorithmic fairness, digital manipulation, the spread of misinformation, and the responsibility of technology companies in handling user data. These challenges illustrate that digital ethics extends far beyond the technical functionality of information systems; it touches on governance, justice, transparency, and human rights. Data sovereignty, for instance, raises questions about which nation has the authority to regulate and protect data generated by its citizens. In many cases, user data is stored in servers located in other countries, creating uncertainty regarding jurisdiction and legal protection. This becomes even more complex when multinational corporations operate in regions with different privacy laws, forcing organizations to navigate conflicting ethical obligations.

Algorithmic fairness has become another central concern as organizations increasingly rely on automated decision making systems. Algorithms, although seemingly neutral, can reflect biases present in the data on which they are trained. Without proper oversight, this can lead to discriminatory outcomes in areas such as recruitment, lending, law enforcement, and public services. The ethical question is no longer just about how data is managed, but also about how automated systems shape human lives and social structures. Furthermore, the rise of digital manipulation, including deepfakes, AI generated misinformation, and deliberate content distortion, challenges the integrity of information in the digital world. These technological capabilities blur the line between truth and fabrication, presenting serious risks to public trust, political stability, and social cohesion. As a result, the ethical management of information systems must consider not only data protection but also the authenticity and reliability of digital content.

The responsibility of technology companies has also come under intense scrutiny. Platforms that control massive amounts of user data, such as social

media networks, search engines, and cloud service providers, are expected to act transparently and responsibly. However, without clear ethical guidelines, some organizations prioritize profit and efficiency over user welfare, leading to misuse of personal information, privacy violations, or manipulative data practices. This imbalance highlights the urgent need for stronger ethical regulations and internal governance mechanisms within technology driven institutions. The findings from this analysis reinforce the importance of developing holistic ethical frameworks that address not only technical concerns but also the broader socio cultural implications of digitalization. Ethical governance must go beyond compliance with regulatory requirements; it must integrate principles of fairness, transparency, respect, and accountability into all stages of information system development and implementation.(Morshed & Khrais, 2025)

Application of Ethical Values in Information Systems

Based on the analysis above, strengthening the ethical foundation of information system management requires several strategic approaches designed to balance technological innovation with moral responsibility. These strategies include organizational, educational, regulatory, and technological measures that support responsible digital transformation.(Gouveia et al., 2025)

Organizations must establish clear and comprehensive ethical guidelines that reflect both international standards and the cultural values of the communities they serve. These guidelines should address critical issues such as privacy protection, data accuracy, consent mechanisms, algorithmic transparency, cybersecurity, and responsible data sharing. By providing a structured ethical framework, organizations can reduce ambiguity and ensure that employees understand their responsibilities when handling information.

Ethical awareness cannot be achieved solely through written policies. Continuous education and training programs are essential to help employees recognize ethical dilemmas, understand the consequences of unethical practices, and develop the skills needed to make responsible decisions. Regular workshops, case based learning, and scenario simulations can foster a deeper understanding of ethical principles in real world contexts.(Bruun et al., 2022)

Transparency and accountability are key pillars of ethical information management. Organizations should implement governance structures that monitor data usage, evaluate algorithmic decision making, and document the processes behind data collection and storage. Independent audits, ethics committees, and public reporting systems can help ensure that ethical standards are consistently followed and that any misuse of information is detected early.(Thamik & Wu, 2022)

Ethical values must be incorporated into the design and development stages of information systems rather than being treated as add ons after deployment. This approach, known as “ethics by design,” encourages system developers to consider privacy protection, data minimization, user control, and bias prevention during the technological development process. Designing systems with ethics in mind helps reduce risks and ensures that technology aligns with users’ expectations and societal norms.(Valentine et al., 2023)

Given the global nature of digitalization, no single country can address all ethical challenges alone. International collaboration is essential to harmonize digital policies, protect cross border data flows, and prevent unethical practices by multi national corporations. Governments must work together to establish stronger regulations, consistent data protection standards, and clear enforcement mechanisms to ensure that ethical guidelines are upheld universally.(Maleki, 2025)

Innovation should not come at the cost of human rights or social welfare. Organizations must ensure that new technologies are developed and applied responsibly, with careful consideration of potential risks and unintended consequences. Ethical impact assessments, stakeholder consultations, and risk mitigation strategies should be conducted prior to the deployment of new information systems to ensure that they contribute positively to society.(Diaz-Asper et al., 2024)

CONCLUSION

Based on the research findings and literature review, it can be concluded that the development of information systems in the digital era has brought significant positive impacts, particularly in improving efficiency, transparency, and access to information across various sectors. However, these advancements also introduce increasingly complex ethical challenges, including data privacy concerns, system security risks, information misuse, and unequal digital access. As noted by Iano, Irsyad, and Sabandi (2024), an effective information system must be balanced with strong ethical understanding to ensure responsible use of technology. Further highlights that implementing information systems without considering ethical and legal aspects can trigger social and cultural problems within organizations. Similar concerns are echoed and who found that privacy violations and illegal software use reflect weak digital ethics among users. Therefore, sustainable information system development must uphold honesty, accountability, justice, and strong ethical literacy to ensure safe, fair, and responsible digital governance.

REFERENCE

- Bruun, H., Milling, L., Mikkelsen, S., & Huniche, L. (2022). Ethical Challenges Experienced By Prehospital Emergency Personnel: A Practice-Based

- Model Of Analysis. *Bmc Medical Ethics*, 23(1).
<https://doi.org/10.1186/S12910-022-00821-9>
- Dhio Rizqi Novan Saputra, Tiara Salsabilla P, Bintang Adrian, Selfillah Naurah Sabela, & Saifuddin Zuhri. (2024). The Religious Level Of Generation-Z In The Midst Of Digitalization Especially In Surabaya Tingkat Religius Generasi-Z Di Tengah Digitalisasi Khususnya Di Surabaya. 2(1).
- Diaz-Asper, C., Hauglid, M. K., Chandler, C., Cohen, A. S., Foltz, P. W., & Elvevåg, B. (2024). A Framework For Language Technologies In Behavioral Research And Clinical Applications: Ethical Challenges, Implications, And Solutions. *American Psychologist*, 79(1).
<https://doi.org/10.1037/Amp0001195>
- Gouveia, A. J., Teixeira, B., Pinto, G., Figueiredo, G., & Simões, B. (2025). Navigating Ethical And Cybersecurity Challenges In Healthcare Information Systems: A Brief Literature Review. *Procedia Computer Science*, 256. <https://doi.org/10.1016/J.Procs.2025.02.203>
- Hidayah, F., Gaol, L., Pinem, S., Carlos, A., & Purba, I. (2024). Perlindungan Hak Privasi Dan Data Diri Di Era Digitalisasi Modern. *Jurnal Ilmu Teknik*, 1(2).
- Maleki, A. (2025). Voices From The Virtual Classroom: Students' Views Toward Ethical Challenges In The Context Of Online Formative Assessment. *Discover Education*, 4(1). <https://doi.org/10.1007/S44217-025-00445-2>
- Morshed, A., & Khrais, L. T. (2025). Cybersecurity In Digital Accounting Systems: Challenges And Solutions In The Arab Gulf Region. *Journal Of Risk And Financial Management*, 18(1).
<https://doi.org/10.3390/Jrfm18010041>
- Mulyatini, N., Herlina, E., & Iskandar, Y. (2023). Hybrid Process ; Defense Strategies For Micro, Small And Medium Enterprises In The Pandemic. *International Journal Of Engineering Business And Social Science*, 1(04).
<https://doi.org/10.58451/Ijebss.V1i04.56>
- Mylrea, M., & Robinson, N. (2023). Artificial Intelligence (Ai) Trust Framework And Maturity Model: Applying An Entropy Lens To Improve Security, Privacy, And Ethical Ai. *Entropy*, 25(10).
<https://doi.org/10.3390/E25101429>
- Ningsih, F. (2024). The Importance Of It-Based Public Accounting Transformation In Supporting The Digitalization Of Good Governance. *Indonesian Journal Of Business Analytics*, 3(6).
<https://doi.org/10.55927/Ijba.V3i6.6160>
- Prameswari, D. A., & Aprianingsih, A. (2023). Proposed Digital Marketing Strategy For Textile Companies (Case Study: Pt. Aneka Tekstil Indonesia). *International Journal Of Current Science Research And Review*, 06(02).
<https://doi.org/10.47191/Ijcsrr/V6-I2-23>
- Prasetyo, Y. A., & Kasiyan, K. (2024). Revitalization Of Terbang Bandhung Art Through Interactive Learning Media Based On Android Applications For

- High School Students In Pasuruan City. *International Journal Of Multicultural And Multireligious Understanding*, 11(5). <https://doi.org/10.18415/ijmmu.V11i5.5676>
- Rahmawati, A. A., Buchdadi, A. D., & Siregar, M. E. S. (2023). In The Midst Of Payment System Digitalization, Why Are There Still Msmes That Have Not Used Qris? *Journal Of Indonesian Management*, 3(3). <https://doi.org/10.53697/jim.V3i3.1397>
- Romandoni, I. Y., Sulistyorini, & Nur Efendi. (2024). Transformasi Kepemimpinan Pendidikan Islam: Tantangan Dan Peluang Di Era Digital. *Tadbir: Jurnal Manajemen Pendidikan Islam*, 12(2). <https://doi.org/10.30603/Tjmpi.V12i2.4932>
- Saeidnia, H. R. (2023). Ethical Artificial Intelligence (Ai): Confronting Bias And Discrimination In The Library And Information Industry. *Library Hi Tech News*. <https://doi.org/10.1108/Lhtn-10-2023-0182>
- Saputra, D. R. N., Salsabilla, T., Adrian, B., Naurah, S., & Zuhri, S. (2024). The Religious Level Of Generation-Z In The Midst Of Digitalization Especially In Surabaya. *Jursih*, 2(1).
- Sari, Y. A., Noviarita, H., & Anggraeni, E. (2024). The Influence Of Information Technology And Tax Awareness On Interest In Participating Tax Amnesty. *International Student Conference On Business, Education, Economics, Accounting, And Management (Isc-Beam)*, 1(1). <https://doi.org/10.21009/Isc-Beam.011.13>
- Stahl, B. C., Schroeder, D., & Rodrigues, R. (2024). Ethics Of Artificial Intelligence: Case Studies And Options For Addressing Ethical Challenges (Excerpt). *Ekonomicheskaya Sotsiologiya*, 25(1). <https://doi.org/10.17323/1726-3247-2024-1-85-95>
- Thamik, H., & Wu, J. (2022). The Impact Of Artificial Intelligence On Sustainable Development In Electronic Markets. *Sustainability (Switzerland)*, 14(6). <https://doi.org/10.3390/Su14063568>
- Valentine, L., D'alfonso, S., & Lederman, R. (2023). Recommender Systems For Mental Health Apps: Advantages And Ethical Challenges. *Ai And Society*, 38(4). <https://doi.org/10.1007/S00146-021-01322-W>
- Wirawan, R., & Laksito, Fx. H. B. (2024). The Existence Of Local Public Broadcasting Institutions Radio Irama Fm Amid Digital Transformation In Public Information Distribution. *Indonesian Journal Of Contemporary Multidisciplinary Research*, 3(6). <https://doi.org/10.55927/Modern.V3i6.12451>
- Zaida, N. A. (2024). The Role Of Parents In Forming The Islamic Identity Of Early Children In The Digital Era. *Darul Ilmi: Jurnal Ilmu Kependidikan Dan Keislaman*, 12(2). <https://doi.org/10.24952/Di.V12i2.13836>