

DIGITAL TRANSFORMATION IN THE CORRECTIONAL SYSTEM TOWARDS EFFECTIVE REHABILITATION AND SOCIAL REINTEGRATION

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Abstract

Digital transformation has emerged as a strategic response to longstanding problems in Indonesia's correctional system, including overcrowding, high recidivism, and limited resources. Beyond administrative modernization, digitalization is increasingly viewed as a pathway toward a more humane and rehabilitative penal paradigm. This article examines how digital transformation contributes to rehabilitation and social reintegration of inmates in Indonesia. Using a qualitative juridical-empirical method, the study combines normative analysis of laws and human rights principles with empirical data drawn from policy reports, academic studies, and correctional practices. The findings highlight three key contributions of digitalization. First, rehabilitation efforts are strengthened through online learning platforms, digital vocational training, and virtual counseling programs that expand access to inmate development. Second, transparency and accountability are enhanced by integrated databases and complaint systems that reduce maladministration and increase public trust. Third, reintegration opportunities improve through digital entrepreneurship initiatives and technology-based connections with the labor market. These results suggest that digital transformation can be a vital instrument for realizing the rehabilitative mandate of Law Number 22 of 2022 and advancing restorative justice. Properly integrated into correctional policy, digitalization not only increases efficiency but also promotes a correctional system that is more just, inclusive, and socially sustainable.

Keyword: *Digital Transformation, Correctional System, Rehabilitation, Social Reintegration, Human Rights.*

A. INTRODUCTION

Correctional systems worldwide, including in Indonesia, grapple with persistent challenges such as severe overcrowding, elevated recidivism rates, and constrained human resources, which undermine the effectiveness of incarceration and rehabilitation efforts. A study conducted in five countries (Bangladesh, India, Indonesia, Nepal, and Sri Lanka) found that prisons

operate at 131.4% to 215.6% overcapacity, exacerbating issues such as inadequate healthcare, mental health crises, and limited access to rehabilitative programs¹ High recidivism rates, often exceeding 50% among narcotics offenders, highlight the failure of traditional punitive measures to foster behavioral change and social reintegration.² These problems are compounded by digital literacy gaps, with many inmates lacking basic skills to engage with technology, further isolating vulnerable groups such as women and juveniles who face additional barriers like gender-based inequalities and hegemonic control within facilities.³ Empirical studies reveal that overcrowding contributes to mental health disorders affecting 40% to 100% of prisoners, while recidivism is linked to insufficient post-release support and unaddressed substance abuse.⁴ This context underscores the urgent need for innovative reforms in correctional governance to address these systemic deficiencies.

A pivotal paradigm shift in penal philosophy, from punishment-oriented to rehabilitation-focused, drives this imperative for change. Historically, correctional systems emphasized deterrence and retribution, often resulting in prolonged incarceration without meaningful reform.⁵ However, contemporary approaches prioritize rehabilitation as a means to restore inmates' societal functionality, aligning with restorative justice principles that emphasize victim reconciliation, offender accountability, and community involvement.⁶ In

¹ SM Yasir Arafat, Sujita Kumar Kar, Chittahari Abhayanayake, Pawan Sharma, and M. Marthoenis, "Prison mental health in South-East Asia: A narrative review," *Brain and Behavior* 14, no. 8 (2024): 714.

²Umi Enggarsasi, and Nur Khalimatus Sa'diyah, "Impact of Rehabilitation Programs in Indonesian Correctional Institutions on Reducing Recidivism Rates," *Jurnal Hukum* 41, no. 2 (2023): 421. See too, Aditia Arief Firmanto, Prida Harkina, and Vira Sandayanti, "The Correlation Between the Criminal Sentence Period and the Intention of Prisoners to Stop Using Drugs in Class I Correctional Facility of Bandar Lampung," *Jurnal Hukum Novelty* 12, no. 2 (2021): 267; Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 398.

³ William Maxey, Zainal Arifin, Hari Harjanto Setiawan, Sri Setiawati, and Rudi Febriamansyah, "Discrepancy between policy and practice: a case study on hegemony within an Indonesian juvenile correctional center (LPKA)," *Children and Youth Services Review* 6, no. 4 (2025): 471. See too, Ibnu Chuldun, Fathur Rokhman, and Widiyanto Widiyanto, "Women Between Jail: A Discourse of Women Protection on Indonesia Correctional Act," *Journal of Law and Legal Reform* 5, no. 2 (2024): 864.

⁴ Aditia Arief Firmanto, Prida Harkina, and Vira Sandayanti, "The Correlation Between the Criminal Sentence Period and the Intention of Prisoners to Stop Using Drugs in Class I Correctional Facility of Bandar Lampung," *Jurnal Hukum Novelty* 12, no. 2 (2021): 267. See too, Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 399.

⁵ Januar Rahadian Mahendra, and Silas Oghenemaro Emovwodo, "Monodualistic and Pluralistic Punishment Politics in Criminal Code Reform: Lessons from Indonesia," *Journal of Law, Environmental and Justice* 1, no. 3 (2023): 225. See too, Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 32.

⁶ Agam Ibnu Asa, Muhammad Mukhtasar Syamsuddin, Ahmad Zubaidi, and Agus Wahyudi, "Restorative Justice is a Progressive Breakthrough in Resolving Criminal Law Problems," *International Journal of Law Reconstruction* 9, no. 1 (2024): 156. See too, Bunyamin Bunyamin, Firdaus Arifin, Ihsanul Maarif, Robi Assadul Bahri, Sekolah Tinggi Hukum Galunggung, and Indonesia Mohd Kamarulnizam Abdullah, "Reforming Indonesia's Correctional System: The Role of Maq Āṣ Id Al-Syar Ī' Ah in Ensuring Justice and Rehabilitation," *De Jure: Jurnal Hukum Dan Syar'iah* 17, no. 1 (2025): 58; Auralia Althooffany Wahyudi,

Indonesia, this shift is enshrined in normative frameworks like Law Number 22/2022 on Corrections, which reclassifies inmates, including death row prisoners, and mandates programs for character and independence development to facilitate reintegration.⁷ Similarly, Law Number 11/2012 on the Juvenile Justice System promotes diversion and holistic rehabilitation, though discrepancies between policy and practice persist, as seen in juvenile centers where hegemonic practices undermine access to justice.⁸ This rehabilitation-versus-punishment paradigm reframes incarceration not as mere confinement but as an opportunity for behavioral improvement, urging the integration of human rights principles to ensure dignity and equity.⁹

Digitalization emerges as a transformative tool in this paradigm, extending beyond administrative modernization to enhance rehabilitation and social reintegration. Technologies such as electronic health records, AI-driven data processing, and videoconferencing enable efficient prisoner management, personalized development programs, and remote interactions, fostering transparency and accountability.¹⁰ In correctional settings, digital platforms support e-learning for vocational skills, online counseling for mental health, and connectivity for post-release employment, aligning with goals of reducing recidivism through skill-building and social support.¹¹ For instance, AI tools can automate data extraction from clinical notes and histories, improving disease detection and treatment in overcrowded facilities.¹² In Indonesia, this role is vital for implementing restorative justice, as digital systems can bridge

Balqis Mira Firdausy, and Niken Rahmita Sari, "Aplikasi E-Government dalam Inovasi Pelayanan Publik: Studi Kasus di Yogyakarta." *Jurnal Analisis Kebijakan & Pelayanan Publik* 4, no. 2 (2022): 29.

⁷ Niken Subekti Budi Utami, and I. Kadek Sudiarsana, "Quo Vadis: Regulating Independence Coaching for Death Row Inmates in Indonesian Correctional System," *Yustisia* 12, no. 3 (2023): 298. See too, Anis Widyawati, Dian Latifiani, Helda Rahmasari, and Ade Adhari, "Optimizing Oversight: Developing an Ideal Framework for Supervision Prisoners' Rights Allocation," *IJCLS (Indonesian Journal of Criminal Law Studies)* 9, no. 2 (2024): 192.

⁸ William Maxey, Zainal Arifin, Hari Harjanto Setiawan, Sri Setiawati, and Rudi Febriamansyah, "Discrepancy between policy and practice: a case study on hegemony within an Indonesian juvenile correctional center (LPKA)," *Children and Youth Services Review* 6, no. 4 (2025): 473.

⁹ Iklima Salsabil Dm, and Inge Widya Pangestika Pratomo, "Human Rights Guarantee for Prisoners in the Perspective of Correctional System in Indonesia," *Lex Scientia Law Review* 1, no. 1 (2017): 35. See too, Ibnu Chuldun, Fathur Rokhman, and Widiyanto Widiyanto, "Women Between Jail: A Discourse of Women Protection on Indonesia Correctional Act," *Journal of Law and Legal Reform* 5, no. 2 (2024): 865.

¹⁰ Carolyn McKay, and Kristin Macintosh, "Digital vulnerability: People-in-prison, videoconferencing and the digital criminal justice system," *Journal of Criminology* 57, no. 3 (2024): 321.

¹¹ Umi Enggarsasi, and Nur Khalimatus Sa'diyah, "Impact of Rehabilitation Programs in Indonesian Correctional Institutions on Reducing Recidivism Rates," *Jurnal Hukum* 41, no. 2 (2023): 425. See too, Bunyamin Bunyamin, Firdaus Arifin, Ihsanul Maarif, Robi Assadul Bahri, Sekolah Tinggi Hukum Galunggung, and Indonesia Mohd Kamarulnizam Abdullah, "Reforming Indonesia's Correctional System: The Role of Maq Āṣ Id Al-Syar Ā' Ah in Ensuring Justice and Rehabilitation," *De Jure: Jurnal Hukum Dan Syar'iah* 17, no. 1 (2025): 59.

¹² William G. Whitford, "Digitalization of Prison Records Supports Artificial Intelligence Application," *Journal of Correctional Health Care* 31, no. 4 (2025): 224.

gaps in supervision for diverted juveniles or probationers, ensuring behavioral monitoring and community oversight.¹³

Despite these potentials, digital transformation faces significant challenges, substantiated by empirical evidence. Infrastructure gaps, including limited IT facilities and budget constraints, hinder implementation, particularly in overcapacity prisons where basic resources are strained.¹⁴ Digital literacy deficiencies among inmates, exacerbated by socioeconomic vulnerabilities, lead to exclusion from programs, with studies showing low engagement in technology-based education.¹⁵ Data security risks, such as breaches in prisoner records, pose threats to privacy and human rights, while bureaucratic resistance from officials accustomed to conventional systems stalls adoption.¹⁶ Empirical data from South-East Asia indicate high mental health burdens in prisons, amplified by digital vulnerabilities like unequal access to videoconferencing, which can isolate inmates further. Overcrowding statistics correlate with these issues, as do recidivism rates tied to unaddressed literacy gaps.¹⁷

Existing studies on digital transformation in correctional systems predominantly focus on administrative efficiencies, such as plea bargaining or record digitization, neglecting its rehabilitative dimensions and integration with Indonesian correctional law and human rights.¹⁸ While research addresses general reforms like alternative sentencing and restorative justice, there is a notable gap in examining digitalization's role in enhancing rehabilitation and

¹³ Nadia Utami Larasati, Fahlesa Munabari, and Untung Sumarwan, "Prison Overcrowding: Alternative Sentencing in Indonesia's Draft Criminal Code and Its Consequences on Correctional System," *Safety* 13 (2014): 81. See too, Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 33; Setya Wahyudi, Rani Hendriana, Dwiki Oktobrian, and Bhanu Prakash Nunna, "Recomposing the Handover and Return to Parents in the Juvenile Justice System in Indonesia: Dilemma between Best Interest of the Juvenile and Legal Shadow," *Volksgesist: Jurnal Ilmu Hukum dan Konstitusi* (2025): 279.

¹⁴ Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 342. See too, Anis Widyawati, Pujiyono Pujiyono, Nur Rochaeti, Genjie Ompoy, and Nurul Natasha Binti Muhammad Zaki, "Urgency of the Legal Structure Reformation for Law in Execution of Criminal Sanctions," *Lex Scientia Law Review* 6, no. 2 (2022): 335; M. Musa, Elsi Elvina, and Evi Yanti, "Criminal Social Work To Overcome Overcapacity In Post-Pandemic Prisons," *Yuridika* 38, no. 1 (2023): 54.

¹⁵ SM Yasir Arafat, Sujita Kumar Kar, Chittahari Abhayanayake, Pawan Sharma, and M. Marthoenis, "Prison mental health in South-East Asia: A narrative review," *Brain and Behavior* 14, no. 8 (2024): 716.

¹⁶ Carolyn McKay, and Kristin Macintosh, "Digital vulnerability: People-in-prison, videoconferencing and the digital criminal justice system," *Journal of Criminology* 57, no. 3 (2024): 324.

¹⁷ Umi Enggarsasi, and Nur Khalimatus Sa'diyah, "Impact of Rehabilitation Programs in Indonesian Correctional Institutions on Reducing Recidivism Rates," *Jurnal Hukum* 41, no. 2 (2023): 426. Nadia Utami Larasati, Fahlesa Munabari, and Untung Sumarwan, "Prison Overcrowding: Alternative Sentencing in Indonesia's Draft Criminal Code and Its Consequences on Correctional System," *Safety* 13 (2014): 83.

¹⁸ Iklima Salsabil Dm, and Inge Widya Pangestika Pratomo, "Human Rights Guarantee for Prisoners in the Perspective of Correctional System in Indonesia," *Lex Scientia Law Review* 1, no. 1 (2017): 36. See too, Haeranah Haeranah, Hijrah Adhyanti Mirzana, Andi Muhammad Aswin Anas, Ismail Iskandar, Arnita Pratiwi Arifin, Ulil Amri, and Normiati Normiati, "The Concept of Plea Bargain in the Criminal Process System in Indonesia," *Law Reform* 21, no. 1 (2025): 9; William G. Whitford, "Digitalization of Prison Records Supports Artificial Intelligence Application," *Journal of Correctional Health Care* 31, no. 4 (2025): 226.

reintegration, particularly amid overcapacity and post-pandemic challenges.¹⁹ Few studies explore human rights implications in digital efforts, such as protections under Law Number 22/2022, or the lack of supervision in digital monitoring for vulnerable groups.²⁰

This study addresses these gaps by explicitly formulating the core problem: To what extent can digital transformation strengthen the rehabilitation and social reintegration functions of the Indonesian correctional system, and what strategies can overcome associated challenges? Grounded in normative aspects of digital transformation, its practical implementations, and strategic enhancements, the research aims to provide a comprehensive framework for effective digitalization, anchored in human rights and restorative justice principles.

B. RESEARCH METHODS

This research employs a qualitative methodology with a juridical-empirical approach to examine digital transformation's role in enhancing rehabilitation and social reintegration within Indonesia's correctional system. The normative juridical component involves a juridical review of relevant laws, regulations, and legal principles, including Law Number 22/2022 on Corrections, human rights frameworks, and international practices on rehabilitation.²¹ Furthermore, the empirical dimension draws on secondary data from official reports, academic publications, journals, books, and policy documents related to correctional digitalization.²² Empirical evidence encompasses quantitative statistics and qualitative evaluations, such as prison

¹⁹ Agam Ibnu Asa, Muhammad Mukhtasar Syamsuddin, Ahmad Zubaidi, and Agus Wahyudi, "Restorative Justice is a Progressive Breakthrough in Resolving Criminal Law Problems," *International Journal of Law Reconstruction* 9, no. 1 (2024): 157. See too, Nadia Utami Larasati, Fahlesa Munabari, and Untung Sumarwan, "Prison Overcrowding: Alternative Sentencing in Indonesia's Draft Criminal Code and Its Consequences on Correctional System," *Safety* 13 (2014): 84; Januar Rahadian Mahendra, and Silas Oghenemaro Emovwodo, "Monodualistic and Pluralistic Punishment Politics in Criminal Code Reform: Lessons from Indonesia," *Journal of Law, Environmental and Justice* 1, no. 3 (2023): 228; Asa et al., 2025; M. Musa, Elsi Elvina, and Evi Yanti, "Criminal Social Work To Overcome Overcapacity In Post-Pandemic Prisons," *Yuridika* 38, no. 1 (2023): 55.

²⁰ Bunyamin Bunyamin, Firdaus Arifin, Ihsanul Maarif, Robi Assadul Bahri, Sekolah Tinggi Hukum Galunggung, and Indonesia Mohd Kamarulnizam Abdullah, "Reforming Indonesia's Correctional System: The Role of Maq Āṣ Id Al-Syar Ī' Ah in Ensuring Justice and Rehabilitation," *De Jure: Jurnal Hukum Dan Syar'iah* 17, no. 1 (2025): 60. See too, Niken Subekti Budi Utami, and I. Kadek Sudiarsana, "Quo Vadis: Regulating Independence Coaching for Death Row Inmates in Indonesian Correctional System," *Yustisia* 12, no. 3 (2023): 299. Anis Widyawati, Pujiyono Pujiyono, Nur Rochaeti, Genjie Ompoy, and Nurul Natasha Binti Muhammad Zaki, "Urgency of the Legal Structure Reformation for Law in Execution of Criminal Sanctions," *Lex Scientia Law Review* 6, no. 2 (2022): 336.

²¹ Soerjono Soekant, and Sri Mamudji, *Penelitian hukum normatif: Suatu tinjauan singkat*, (Jakarta: RajaGrafindo Persada. 2019), 23.

²² Direktorat Jenderal Pemasyarakatan. (2023). *Laporan kinerja pemasyarakatan 2023*. Jakarta: Kementerian Hukum dan HAM RI.

overcrowding rates, recidivism trends, and program outcomes derived from institutional evaluations.²³

Data collection was conducted via document analysis of these sources, avoiding redundancy by integrating literature and policy reviews into a unified process. Descriptive qualitative analysis was applied to interpret the data, outlining phenomena, challenges (e.g., infrastructure gaps, data security), and strategies for digital enhancement. This method provides a robust overview, identifying implementation barriers and formulating human rights-aligned policies.²⁴

Empirical data is specifically located in 1) official reports from the Directorate General of Corrections for overcrowding and digital application impacts; 2) academic studies on Law Number 22/2022, revealing simplified procedures reducing recidivism in some facilities, 3) publications on smart prison frameworks, highlighting IoT and AI integration challenges in Indonesia.²⁵ This triangulation ensures credibility and directly supports results on efficiency, community models, legal paradigms, reintegration, and smart prisons.

C. RESULTS AND DISCUSSION

1. Digital Transformation in Correctional Systems: Normative Aspects

The normative framework for digital transformation in Indonesia's correctional system is rooted in a paradigm shift from punitive incarceration to rehabilitation and social reintegration, as enshrined in Law Number 22/2022 on Corrections and Law Number 11/2012 on the Juvenile Justice System. These legislative frameworks emphasize restorative justice, prioritizing rehabilitation, victim reconciliation, and community involvement over traditional retributive approaches.²⁶ Restorative justice seeks to restore

²³ James M. Byrne, and Faye S. Taxman, "Crime control strategies and community change-reframing the surveillance vs. treatment debate," *Fed. Probation* 70, no. 23 (2006): 7. See too, Herdycha Surya Kisworo, and Heppy Hyma Puspytasari, "Implementasi Dan Implikasi Undang-Undang Nomor 22 Tahun 2022 Tentang Pemasyarakatan Terhadap Perubahan Sosial Warga Binaan Pemasyarakatan," *Qaumiyah: Jurnal Hukum Tata Negara* 6, no. 1 (2025): 14.

²⁴ Creswell, John W., and Cheryl N. Poth. *Qualitative inquiry and research design: Choosing among five approaches*. (Califronia: Sage publications, 2016), 23.

²⁵ Ejo Imandeka, Panca Oktavia Hadi Putra, Achmad Nizar Hidayanto, and Mufti Mahmud, "Exploring the World of Smart Prisons: Barriers, Trends, and Sustainable Solutions," *Human Behavior and Emerging Technologies* 2024, no. 1 (2024): 621. See too, Herdycha Surya Kisworo, and Heppy Hyma Puspytasari, "Implementasi Dan Implikasi Undang-Undang Nomor 22 Tahun 2022 Tentang Pemasyarakatan Terhadap Perubahan Sosial Warga Binaan Pemasyarakatan," *Qaumiyah: Jurnal Hukum Tata Negara* 6, no. 1 (2025): 16.

²⁶ Agam Ibnu Asa, Muhammad Mukhtasar Syamsuddin, Ahmad Zubaidi, and Agus Wahyudi, "Restorative Justice is a Progressive Breakthrough in Resolving Criminal Law Problems," *International Journal of Law Reconstruction* 9, no. 1 (2024): 159. Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 34; Agam Ibnu Asa, Muhammad Mukhtasar Syamsuddin, Ahmad Zubaidi, and Agus Wahyudi, "Restorative Justice is a Progressive Breakthrough in Resolving Criminal Law Problems," *International Journal of Law Reconstruction* 9, no. 1 (2024): 167.

societal harmony by addressing the needs of victims, offenders, and communities, aligning with human rights principles that ensure inmates retain rights to education, health, and non-discriminatory treatment despite incarceration.²⁷ Law Number 22/2022, for instance, mandates comprehensive rehabilitation programs, including character and independence coaching, even for death row inmates, ensuring their dignity and potential for reform are upheld.²⁸

Digitalization serves as a critical enabler of this normative shift by fostering transparent, data-driven, and equitable correctional processes. Technologies such as electronic health records and AI-driven tools enhance access to education and healthcare, directly supporting inmates' rights. For example, Whitford²⁹ highlights how AI can extract and classify medical data from fragmented clinical notes, improving disease detection and treatment in prisons. Similarly, digital platforms like e-learning and telemedicine can be utilized to facilitate moral and economic rehabilitation.³⁰ These tools create structured, accessible pathways for inmates to develop skills and maintain mental health, critical for reintegration.

Law Number 22/2022 explicitly supports these efforts by clarifying the role of Correctional Institutions (*Bapas*) in post-release reintegration. Research by Kisworo and Puspytasari³¹ at Tangerang's Class IIA Youth Correctional Institution demonstrates that simplified remission procedures under this law increased participation in education and skills programs, reducing recidivism. *Bapas* facilitates access to job training and employment opportunities and reducing social barriers and fostering public trust in correctional systems as agents of social change.³² This aligns with the restorative justice principle of community involvement, creating a dialogue space for inmates, victims, and society, thus enhancing social restoration.³³

²⁷ Iklima Salsabil Dm, and Inge Widya Pangestika Pratomo, "Human Rights Guarantee for Prisoners in the Perspective of Correctional System in Indonesia," *Lex Scientia Law Review* 1, no. 1 (2017): 37.

²⁸ Niken Subekti Budi Utami, and I. Kadek Sudiarsana, "Quo Vadis: Regulating Independence Coaching for Death Row Inmates in Indonesian Correctional System," *Yustisia* 12, no. 3 (2023): 300.

²⁹ William G. Whitford, "Digitalization of Prison Records Supports Artificial Intelligence Application," *Journal of Correctional Health Care* 31, no. 4 (2025): 228.

³⁰ Bunyamin Bunyamin, Firdaus Arifin, Ihsanul Maarif, Robi Assadul Bahri, Sekolah Tinggi Hukum Galunggung, and Indonesia Mohd Kamarulnizam Abdullah, "Reforming Indonesia's Correctional System: The Role of Maq Ās Id Al-Syar Ī' Ah in Ensuring Justice and Rehabilitation," *De Jure: Jurnal Hukum Dan Syar'iah* 17, no. 1 (2025): 61.

³¹ Herdycha Surya Kisworo, and Heppy Hyma Puspytasari, "Implementasi Dan Implikasi Undang-Undang Nomor 22 Tahun 2022 Tentang Pemasarakatan Terhadap Perubahan Sosial Warga Binaan Pemasarakatan," *Qaumiyah: Jurnal Hukum Tata Negara* 6, no. 1 (2025): 18.

³² Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 34.

³³ Agam Ibnu Asa, Muhammad Mukhtasar Syamsuddin, Ahmad Zubaidi, and Agus Wahyudi, "Restorative Justice is a Progressive Breakthrough in Resolving Criminal Law Problems," *International Journal of Law Reconstruction* 9, no. 1 (2024): 160.

Furthermore, hegemonic practices in juvenile facilities, such as control of space and punitive regimes, undermine the rehabilitative intent of Law Number 11/2012, particularly for vulnerable youth.³⁴ Women inmates face additional barriers, with gender-sensitive policies under the Correctional Act often poorly implemented, leading to inadequate healthcare and rehabilitation opportunities.³⁵ Digital tools can address these gaps by reducing maladministration (e.g., extortion or discrimination), through transparent systems like online complaint platforms, which empower inmates and families to report violations directly.³⁶ Such mechanisms strengthen checks and balances, safeguarding prisoners' rights and aligning with human rights standards.

The integration of digitalization with restorative justice also draws on Indonesia's socio-cultural context. Bunyamin et al.³⁷ (2025) argue that *maqāsid al-syarī'ah* provides a holistic framework, emphasizing spiritual and practical rehabilitation to foster sustainable social harmony. For instance, religious-based programs delivered via digital platforms have shown improvement in inmates' moral behavior, supporting reintegration. Yet, cultural resistance to such approaches and limited oversight mechanisms hinder progress. Wahyudi et al.³⁸ note that juvenile diversion programs lack enforceable parental or community supervision, risking recidivism due to weak accountability. Digital monitoring systems could bridge this gap, ensuring compliance and behavioral improvement through real-time data sharing among stakeholders.

Furthermore, digitalization mitigates systemic issues, which affects Indonesia's prison population. Manullang and July³⁹ highlight that coaching programs under Law Number 22/2022, supported by digital tools, reduce drug-related recidivism by providing structured rehabilitation. However, Firmanto et

³⁴ William Maxey, Zainal Arifin, Hari Harjanto Setiawan, Sri Setiawati, and Rudi Febriamansyah, "Discrepancy between policy and practice: a case study on hegemony within an Indonesian juvenile correctional center (LPKA)," *Children and Youth Services Review* 6, no. 4 (2025): 475.

³⁵ Ibnu Chuldun, Fathur Rokhman, and Widiyanto Widiyanto, "Women Between Jail: A Discourse of Women Protection on Indonesia Correctional Act," *Journal of Law and Legal Reform* 5, no. 2 (2024): 866.

³⁶ Anis Widyawati, Pujiyono Pujiyono, Nur Rochaeli, Genjie Ompoy, and Nurul Natasha Binti Muhammad Zaki, "Urgency of the Legal Structure Reformation for Law in Execution of Criminal Sanctions," *Lex Scientia Law Review* 6, no. 2 (2022): 337.

³⁷ Bunyamin Bunyamin, Firdaus Arifin, Ihsanul Maarif, Robi Assadul Bahri, Sekolah Tinggi Hukum Galunggung, and Indonesia Mohd Kamarulnizam Abdullah, "Reforming Indonesia's Correctional System: The Role of Maqāsid al-Syarī'ah in Ensuring Justice and Rehabilitation," *De Jure: Jurnal Hukum Dan Syar'iah* 17, no. 1 (2025): 63.

³⁸ Setya Wahyudi, Rani Hendriana, Dwiki Oktobrian, and Bhanu Prakash Nunna, "Recomposing the Handover and Return to Parents in the Juvenile Justice System in Indonesia: Dilemma between Best Interest of the Juvenile and Legal Shadow," *Volksgeist: Jurnal Ilmu Hukum dan Konstitusi* (2025): 275.

³⁹ Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 343.

al.⁴⁰ found no direct correlation between sentence length and intent to stop drug use, emphasizing the need for digital interventions like e-counseling to address psychological barriers. The Draft Criminal Code's exploration of alternative sentencing, such as social work penalties, further supports digital oversight to reduce overcrowding and promote rehabilitation.⁴¹

Despite these advancements, digital vulnerabilities pose risks. Carolyn and Macintosh⁴² warn that reliance on videoconferencing, while facilitating remote access, can exacerbate isolation for inmates with low digital literacy, violating their right to meaningful societal participation. This "digital vulnerability" underscores the need for inclusive digital policies that ensure equitable access, particularly for women and juveniles.⁴³ Moreover, plea bargaining, introduced in the Draft Criminal Procedure Code's "special path" (Article 199), could leverage digital systems to streamline sentencing while protecting accused rights, though its normative framework remains underdeveloped.⁴⁴

This framework also demands structural reforms to ensure judicial independence in executing sanctions, as current executive oversight enables delays and rights violations.⁴⁵ Digital systems can enhance supervision by integrating police, prosecutors, and courts into a unified platform, ensuring accountability and human rights compliance.⁴⁶ Mahendra and Emovwodo⁴⁷ advocate for a mono-dualistic and pluralistic approach to criminal code reform, balancing deterrence with rehabilitation, which digital tools can operationalize through evidence-based policy-making.

⁴⁰ Aditia Arief Firmanto, Prida Harkina, and Vira Sandayanti, "The Correlation Between the Criminal Sentence Period and the Intention of Prisoners to Stop Using Drugs in Class I Correctional Facility of Bandar Lampung," *Jurnal Hukum Novelty* 12, no. 2 (2021): 269.

⁴¹ Nadia Utami Larasati, Fahlesa Munabari, and Untung Sumarwan, "Prison Overcrowding: Alternative Sentencing in Indonesia's Draft Criminal Code and Its Consequences on Correctional System," *Safety* 13 (2014): 85. See too, M. Musa, Elsi Elvina, and Evi Yanti, "Criminal Social Work To Overcome Overcapacity In Post-Pandemic Prisons," *Yuridika* 38, no. 1 (2023): 57.

⁴² Carolyn McKay, and Kristin Macintosh, "Digital vulnerability: People-in-prison, videoconferencing and the digital criminal justice system," *Journal of Criminology* 57, no. 3 (2024): 327.

⁴³ Ibnu Chuldun, Fathur Rokhman, and Widiyanto Widiyanto, "Women Between Jail: A Discourse of Women Protection on Indonesia Correctional Act," *Journal of Law and Legal Reform* 5, no. 2 (2024): 867.

⁴⁴ Haeranah Haeranah, Hijrah Adhyanti Mirzana, Andi Muhammad Aswin Anas, Ismail Iskandar, Arnita Pratiwi Arifin, Ulil Amri, and Normiati Normiati, "The Concept of Plea Bargain in the Criminal Process System in Indonesia," *Law Reform* 21, no. 1 (2025): 11.

⁴⁵ Anis Widyawati, Pujiyono Pujiyono, Nur Rochaeli, Genjie Ompoy, and Nurul Natasha Binti Muhammad Zaki, "Urgency of the Legal Structure Reformation for Law in Execution of Criminal Sanctions," *Lex Scientia Law Review* 6, no. 2 (2022): 339.

⁴⁶ Hermi Asmawati, "Analisis Penguatan Sistem Pemasyarakatan Melalui Konsep Reintegrasi Sosial," *Jurnal Mengkaji Indonesia* 1, no. 2 (2022): 179.

⁴⁷ Januar Rahadian Mahendra, and Silas Oghenemaro Emovwodo, "Monodualistic and Pluralistic Punishment Politics in Criminal Code Reform: Lessons from Indonesia," *Journal of Law, Environmental and Justice* 1, no. 3 (2023): 230.

2. Implementation and Challenges of Digital Transformation in Correctional Practices

Digital transformation in Indonesia's correctional system has significantly advanced operational efficiency, transparency, and rehabilitation through innovative pilot projects, such as Bali's SDL (*Sistem Database Lembaga*) application and Jogja Smart Service (JSS). These initiatives, recognized as best practices, streamline administrative processes and enhance accountability.⁴⁸ The SDL platform, implemented by the Bali Regional Office of the Ministry of Law and Human Rights, enables real-time monitoring of inmate data and provides an online complaint system, reducing opportunities for maladministration like extortion or discrimination. Similarly, JSS, adapted for correctional contexts, integrates service delivery and public oversight, increasing public trust. These digital systems have reduced administrative delays and improved access to rehabilitative programs, such as e-learning and skills training, aligning with human rights protections under Law Number 22/2022.⁴⁹

The SDL application exemplifies how digitalization supports good governance principles (accountability, transparency, and public participation). By digitizing inmate records and activity reports, it facilitates measurable monitoring and evaluation, enabling authorities to access data instantly.⁵⁰ This reduces bureaucratic inefficiencies and supports evidence-based policymaking, crucial for effective social reintegration. For instance, digital records have improved decision-making accuracy in facilities using SDL, ensuring inmates receive timely access to education and health services.⁵¹ Moreover, online complaint systems empower inmates' families and civil society to report violations transparently, strengthening external oversight and reducing unethical practices.⁵² These advancements align with the restorative justice framework, fostering trust in correctional institutions as agents of social change.⁵³

⁴⁸ Direktorat Jenderal Pemasyarakatan. (2023). *Laporan kinerja pemasyarakatan 2023*. Jakarta: Kementerian Hukum dan HAM RI.

⁴⁹ Iklima Salsabil Dm, and Inge Widya Pangestika Pratomo, "Human Rights Guarantee for Prisoners in the Perspective of Correctional System in Indonesia," *Lex Scientia Law Review* 1, no. 1 (2017): 39.

⁵⁰ Sarjiyati Sarjiyati, Jundiani Jundiani, Ernu Widodo, and Taufiq Yuli Purnama, "Strategi Hukum Dalam Optimalisasi Peran Lembaga Pemerintah Untuk Efektivitas Pelayanan Publik Pada Era Digital," *Proceeding APHTN-HAN* 2, no. 1 (2024): 321.

⁵¹ TBM Ferdiansyah Suryana, Aisyah Azzahrah Rahmawati, Neng Sulisna Ramdanti, and Assahra Nabila Safitri, "Transformasi Digital dalam Pelayanan Publik: Tinjauan Yuridis terhadap SPBE di Indonesia," *CONSTITUO: Journal of State and Political Law Research* 4, no. 1 (2025): 45.

⁵² Yuswarni Yuswarni, Diemyati Soedja, Silvia Balqis, and Arizal Arizal, "Ombudsman Dalam Peningkatan Transparansi dan Akuntabilitas Pelayanan Publik," *Jurnal Ilmu Administrasi Negara ASIAN (Asosiasi Ilmuwan Administrasi Negara)* 12, no. 1 (2024): 164.

⁵³ Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 34.

Community-based models, such as Madiun's Open Prison, further illustrate digitalization's potential. This model integrates digital monitoring to track inmates' progress in real-time, reducing recidivism rates through structured community engagement.⁵⁴ By allowing limited community interaction, the program mitigates stigma and enhances mental readiness for reintegration, supporting inmates' rights to social participation.⁵⁵ Digital platforms also facilitate multi-stakeholder coordination, enabling officers, social institutions, and families to access shared data, improving rehabilitation outcomes.⁵⁶ These successes highlight digitalization's role in making correctional services more inclusive and adaptive, particularly for vulnerable groups like juveniles and women, who benefit from tailored digital interventions.⁵⁷

Despite progress, Indonesia's prison system faces severe implementation challenges. Overcrowding remains critical, with facilities operating at 131.4%–215.6% capacity and affecting 91% of prisons nationwide, housing 215,274 inmates as of August 2024.⁵⁸ This strain limits infrastructure development, particularly digital access in correctional institutions.⁵⁹ Resource constraints further hinder rehabilitation efforts, despite evidence that targeted interventions can significantly reduce reoffending. For instance, recidivism, typically high, was reduced to 1.25% in focused rehabilitation programs.⁶⁰

Low digital literacy, particularly among women and juvenile inmates, exacerbates exclusion, with female inmates reporting difficulty accessing

⁵⁴ Umi Enggarsasi, and Nur Khalimatus Sa'diyah, "Impact of Rehabilitation Programs in Indonesian Correctional Institutions on Reducing Recidivism Rates," *Jurnal Hukum* 41, no. 2 (2023): 427. See too, Fajar Purwawidada, Krismiarsi Krismiarsi, Mashari Mashari, and Sarsintorini Putra, "Social Reintegration Approach As Deradicalization Reformation Policy for Terrorism Convicts in Correctional Institutions," *Journal of positive school psychology* 6, no. 12 (2022): 238.

⁵⁵ Auralia Althooffany Wahyudi, Balqis Mira Firdausy, and Niken Rahmita Sari, "Aplikasi E-Government dalam Inovasi Pelayanan Publik: Studi Kasus di Yogyakarta." *Jurnal Analisis Kebijakan & Pelayanan Publik* 4, no. 2 (2022): 30.

⁵⁶ I. Meranggi Nyoman Trisna Wahyu Raharja, "Transformasi Digital Layanan Pemasyarakatan di Kantor Wilayah Kementerian Hukum dan Hak Asasi Manusia (Kemenkumham) Bali," *Socio-Political Communication and Policy Review* 1, no. 4 (2024): 91.

⁵⁷ Ibnu Chuldun, Fathur Rokhman, and Widiyanto Widiyanto, "Women Between Jail: A Discourse of Women Protection on Indonesia Correctional Act," *Journal of Law and Legal Reform* 5, no. 2 (2024): 868.

⁵⁸ Herdycha Surya Kisworo, and Heppy Hyma Puspytasari, "Implementasi Dan Implikasi Undang-Undang Nomor 22 Tahun 2022 Tentang Pemasyarakatan Terhadap Perubahan Sosial Warga Binaan Pemasyarakatan," *Qaumiyah: Jurnal Hukum Tata Negara* 6, no. 1 (2025): 15.

⁵⁹ Nadia Utami Larasati, Fahlesa Munabari, and Untung Sumarwan, "Prison Overcrowding: Alternative Sentencing in Indonesia's Draft Criminal Code and Its Consequences on Correctional System," *Safety* 13 (2014): 86. See too, Direktorat Jenderal Pemasyarakatan. (2023). *Laporan kinerja pemasyarakatan 2023*. Jakarta: Kementerian Hukum dan HAM RI.

⁶⁰ James M. Byrne, and Faye S. Taxman, "Crime control strategies and community change-reframing the surveillance vs. treatment debate," *Fed. Probation* 70, no. 23 (2006): 14.

digital platforms due to inadequate training.⁶¹ Carolyn and Macintosh⁶² highlight "digital vulnerability," noting that reliance on technologies like videoconferencing risks isolating inmates with limited tech skills, undermining their right to equitable participation. For example, a defense lawyer cited in their study remarked, "No one cares about defendants' abilities to engage with videolinks," reflecting systemic neglect of vulnerable populations.

Data security is another critical concern. The integration of AI and digital records, while efficient, raises privacy risks. Without robust cybersecurity policies, sensitive inmate data could be misused, violating human rights standards.⁶³ Bureaucratic resistance further impedes adoption, with correctional officers preferring manual systems due to inadequate IT training.⁶⁴ This resistance, rooted in a traditional bureaucratic culture, slows the transition to digital systems.⁶⁵

Post-release reintegration programs, managed by correctional institutions, face similar hurdles. Digital monitoring systems could enhance oversight, but weak inter-agency coordination limits their effectiveness. For instance, correctional offices lack integrated databases, hindering collaboration with job training institutions and the private sector.⁶⁶ This lack of coordination, coupled with limited private sector involvement, restricts former inmates' access to employment, increasing recidivism risks.⁶⁷ Socio-cultural barriers, such as community stigma, further complicate reintegration, with former inmates facing social rejection, undermining their right to rebuild social roles.⁶⁸

Infrastructure and budget constraints exacerbate these issues. With limited correctional budgets allocated to digital initiatives, many facilities lack

⁶¹ Ibnu Chuldun, Fathur Rokhman, and Widiyanto Widiyanto, "Women Between Jail: A Discourse of Women Protection on Indonesia Correctional Act," *Journal of Law and Legal Reform* 5, no. 2 (2024): 869.

⁶² Carolyn McKay, and Kristin Macintosh, "Digital vulnerability: People-in-prison, videoconferencing and the digital criminal justice system," *Journal of Criminology* 57, no. 3 (2024): 327.

⁶³ Anis Widyawati, Pujiyono Pujiyono, Nur Rochaeli, Genjie Ompoy, and Nurul Natasha Binti Muhammad Zaki, "Urgency of the Legal Structure Reformation for Law in Execution of Criminal Sanctions," *Lex Scientia Law Review* 6, no. 2 (2022): 340. See too, Siti Mariyam, "Tinjauan yuridis jasa angkutan umum dengan aplikasi berbasis teknologi informasi (perspektif hukum bisnis)," *Jurnal Ilmiah Hukum Dan Dinamika Masyarakat* 16, no. 2 (2019): 356.

⁶⁴ Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 345.

⁶⁵ Sarjiyati Sarjiyati, Jundiani Jundiani, Ernu Widodo, and Taufiq Yuli Purnama, "Strategi Hukum Dalam Optimalisasi Peran Lembaga Pemerintah Untuk Efektivitas Pelayanan Publik Pada Era Digital," *Proceeding APHTN-HAN* 2, no. 1 (2024): 321.

⁶⁶ Imam Hidayat, Andi Wapa, and Harun Arrasyid, "Sistem informasi pendataan narapidana pada lapas menggunakan web," *Jurnal Ilmiah Sistem Informasi Dan Ilmu Komputer* 2, no. 1 (2022): 4.

⁶⁷ Indi Naidha, and Mohammad Saleh, "Implementasi Program Reintegrasi Sosial Narapidana dalam Pemenuhan Hak Memperoleh Pekerjaan," *AURELIA: Jurnal Penelitian dan Pengabdian Masyarakat Indonesia* 4, no. 2 (2025): 2458.

⁶⁸ Alma Lathifia Adzani, and S. Rouli Manalu, "Pengelolaan Komunikasi Mantan Narapidana dalam Berinteraksi dengan Masyarakat," *Interaksi Online* 10, no. 3 (2022): 675.

the hardware and connectivity needed for scalable solutions.⁶⁹ Community Guidance Officers, overburdened with caseloads, struggle to provide effective post-release supervision, increasing vulnerability to violations.⁷⁰ The absence of digital tools, especially in rural correctional offices further hampers monitoring, with manual processes delaying interventions.⁷¹ These structural limitations highlight the need for increased funding and technological investment to ensure sustainable reintegration.

Moreover, digitalization must address specific vulnerabilities. Digital coaching programs, guided by Permenkumham Number 6/2013, have reduced drug-related recidivism in urban facilities, but rural prisons lack the infrastructure to implement these initiatives.⁷² Similarly, juvenile offenders face unique challenges, with hegemonic practices in facilities undermining digital rehabilitation efforts.⁷³ The Criminal Code's exploration of alternative sentencing, like social work penalties, could leverage digital oversight to alleviate overcrowding, but implementation remains inconsistent.⁷⁴

3. Strategies for Strengthening Digital Transformation and Overcoming Challenges

To maximize the potential of digital transformation in Indonesia's correctional system, a comprehensive strategy is essential to address infrastructure deficits, enhance digital literacy, strengthen data security, and promote community-based rehabilitation, all while aligning with human rights principles and cultural values. These efforts aim to overcome systemic challenges such as overcrowding, low digital literacy, and bureaucratic resistance, ensuring a transparent, equitable, and rehabilitative system that reduces recidivism and fosters social reintegration. The approach integrates scalable infrastructure investments, inclusive training programs, robust cybersecurity measures, community-driven models like Madiun's Open Prison, and the culturally resonant principles of *maqāṣid al-syarī'ah* to create a holistic framework for correctional reform.

⁶⁹ Nadia Utami Larasati, Fahlesa Munabari, and Untung Sumarwan, "Prison Overcrowding: Alternative Sentencing in Indonesia's Draft Criminal Code and Its Consequences on Correctional System," *Safety* 13 (2014): 87.

⁷⁰ Indi Naidha, and Mohammad Saleh, "Implementasi Program Reintegrasi Sosial Narapidana dalam Pemenuhan Hak Memperoleh Pekerjaan," *AURELIA: Jurnal Penelitian dan Pengabdian Masyarakat Indonesia* 4, no. 2 (2025): 2459.

⁷¹ Imam Hidayat, Andi Wapa, and Harun Arrasyid, "Sistem informasi pendataan narapidana pada lapas menggunakan web," *Jurnal Ilmiah Sistem Informasi Dan Ilmu Komputer* 2, no. 1 (2022): 5.

⁷² Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 346.

⁷³ William Maxey, Zainal Arifin, Hari Harjanto Setiawan, Sri Setiawati, and Rudi Febriamansyah, "Discrepancy between policy and practice: a case study on hegemony within an Indonesian juvenile correctional center (LPKA)," *Children and Youth Services Review* 6, no. 4 (2025): 475.

⁷⁴ Andi Annisyah Tenri Sanna, "Tantangan dan Peluang: Paradigma Pemidanaan Mengenai Restorative Justice Sebagai Rechterlijke Pardon Dalam KUHP Nasional," *Jurnal Interpretasi Hukum* 6, no. 1 (2025): 65. See too, M. Musa, Elsi Elvina, and Evi Yanti, "Criminal Social Work To Overcome Overcapacity In Post-Pandemic Prisons," *Yuridika* 38, no. 1 (2023): 58.

A critical starting point is investing in digital infrastructure to mitigate the impact of overcrowding.⁷⁵ High-speed internet, AI-driven systems, and hardware upgrades are vital to support initiatives. Scaling SDL nationally with standardized protocols could ensure consistent access to digital services.⁷⁶ Allocating correctional budgets to infrastructure could equip facilities with IoT and AI technologies within five years, boosting administrative efficiency and rehabilitation access. This scalability is crucial for addressing resource constraints and ensuring equitable service delivery across diverse regions.

Enhancing digital literacy is equally essential to bridge access gaps, particularly for vulnerable groups like women and juveniles, with juvenile offenders struggling to use digital platforms due to inadequate training.⁷⁷ Comprehensive training programs can address this "digital vulnerability," as highlighted by Carolyn and Macintosh⁷⁸ who note that reliance on technologies like videoconferencing risks isolating inmates with limited tech skills. For example, JSS pilot increased inmate participation in e-learning through tailored modules.⁷⁹ Implementing mandatory, gender-sensitive, and youth-friendly digital literacy courses could reduce exclusion within two years, ensuring access to telemedicine and online skills training.⁸⁰ Training correctional officers to operate Smart Prison technologies, such as AI-based security systems, is also critical to overcome bureaucratic resistance, with officers currently favoring manual systems due to insufficient IT skills.⁸¹ These efforts promote inclusivity and align with Law Number 22/2022's emphasis on non-discriminatory treatment.⁸²

Data security is a cornerstone of trust in digital systems. The Smart Prison model, integrating IoT, AI, e-marketplaces, and e-learning, risks exposing sensitive inmate data without robust safeguards.⁸³ Enacting cybersecurity regulations based on international standards like ISO 27001

⁷⁵ SM Yasir Arafat, Sujita Kumar Kar, Chittahari Abhayanayake, Pawan Sharma, and M. Marthoenis, "Prison mental health in South-East Asia: A narrative review," *Brain and Behavior* 14, no. 8 (2024): 718.

⁷⁶ Direktorat Jenderal Pemasyarakatan. (2023). *Laporan kinerja pemasyarakatan 2023*. Jakarta: Kementerian Hukum dan HAM RI.

⁷⁷ William Maxey, Zainal Arifin, Hari Harjanto Setiawan, Sri Setiawati, and Rudi Febriamansyah, "Discrepancy between policy and practice: a case study on hegemony within an Indonesian juvenile correctional center (LPKA)," *Children and Youth Services Review* 6, no. 4 (2025): 476.

⁷⁸ Carolyn McKay, and Kristin Macintosh, "Digital vulnerability: People-in-prison, videoconferencing and the digital criminal justice system," *Journal of Criminology* 57, no. 3 (2024): 329.

⁷⁹ M. Musa, Elsi Elvina, and Evi Yanti, "Criminal Social Work To Overcome Overcapacity In Post-Pandemic Prisons," *Yuridika* 38, no. 1 (2023): 59.

⁸⁰ Ibnu Chuldun, Fathur Rokhman, and Widiyanto Widiyanto, "Women Between Jail: A Discourse of Women Protection on Indonesia Correctional Act," *Journal of Law and Legal Reform* 5, no. 2 (2024): 869.

⁸¹ Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 347.

⁸² Iklima Salsabil Dm, and Inge Widya Pangestika Pratomo, "Human Rights Guarantee for Prisoners in the Perspective of Correctional System in Indonesia," *Lex Scientia Law Review* 1, no. 1 (2017): 40.

⁸³ Ejo Imandeka, Panca Oktavia Hadi Putra, Achmad Nizar Hidayanto, and Mufti Mahmud, "Exploring the World of Smart Prisons: Barriers, Trends, and Sustainable Solutions," *Human Behavior and Emerging Technologies* 2024, no. 1 (2024): 627.

could reduce breaches through encrypted databases and regular audits.⁸⁴ Training officers and educating inmates on privacy rights further ensures compliance with human rights standards, fostering trust and aligning with the restorative justice framework.⁸⁵ These measures are vital to prevent misuse of personal data and maintain the integrity of digital transformation efforts.

Expanding community-based correctional models, such as Madiun's Open Prison, leverages digital platforms to enhance reintegration, achieving a reduction in recidivism through real-time monitoring and structured community engagement.⁸⁶ This model empowers communities as active partners, reducing stigma and improving inmates' mental readiness for reintegration, with programs showing an increase in rehabilitation effectiveness by allowing limited community interaction.⁸⁷ Digital platforms facilitate multi-stakeholder coordination, enabling officers, social institutions, and families to access shared data, which improves rehabilitation outcomes.⁸⁸ Strengthening partnerships with private sectors for job training, as advocated by Zarkasi et al.⁸⁹ aligns programs with labor market needs, reducing unemployment among former inmates.⁹⁰ These initiatives mitigate social stigma, affecting former inmates, through public education campaigns and online forums that foster inclusive acceptance.⁹¹

Digital platforms delivering religious-based programs, such as those piloted in Tangerang, have improved inmates' moral behavior and reduced recidivism among narcotics offenders.⁹² These programs align with Indonesia's socio-cultural context, addressing cultural resistance to religious-based

⁸⁴ Anis Widyawati, Pujiyono Pujiyono, Nur Rochaeti, Genjie Ompoy, and Nurul Natasha Binti Muhammad Zaki, "Urgency of the Legal Structure Reformation for Law in Execution of Criminal Sanctions," *Lex Scientia Law Review* 6, no. 2 (2022): 341. See too, Junivan Christian Poluan, Debby Telly Antow, and Lusy KFR Gerungan, "Analisis yuridis reintegrasi sosial dalam sistem pemasyarakatan berdasarkan undang-undang nomor 22 tahun 2022 tentang pemasyarakatan," *Lex Privatum* 14, no. 2 (2024): 335.

⁸⁵ Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 34.

⁸⁶ Umi Enggarsasi, and Nur Khalimatus Sa'diyah, "Impact of Rehabilitation Programs in Indonesian Correctional Institutions on Reducing Recidivism Rates," *Jurnal Hukum* 41, no. 2 (2023): 428.

⁸⁷ Abdullahil Munir, and Mitro Subroto, "Model sistem correctional based community untuk rehabilitasi sosial narapidana berbasis teknologi informasi," *Triwikrama: Jurnal Ilmu Sosial*, 9, no. 2 (2025): 26. See too, Mitro Subroto, "Evaluasi Penerapan Community Based Correction Pada Sistem Pemasyarakatan Di Dalam Program Pembinaan Lapas Kelas 1 Madiun," *Jurnal Pendidikan Kewarganegaraan Undiksha* 10, no. 2 (2022): 104.

⁸⁸ Aditya Nugraha, "Konsep Community Based Corrections Pada Sistem Pemasyarakatan Dalam Menghadapi Dampak Pemenjaraan," *Jurnal Sains Sosio Huaniora P-ISSN* 25, no. 8 (2020): 1244.

⁸⁹ Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 34.

⁹⁰ Indi Naidha, and Mohammad Saleh, "Implementasi Program Reintegrasi Sosial Narapidana dalam Pemenuhan Hak Memperoleh Pekerjaan," *AURELIA: Jurnal Penelitian dan Pengabdian Masyarakat Indonesia* 4, no. 2 (2025): 2460.

⁹¹ Alma Lathifia Adzani, and S. Rouli Manalu, "Pengelolaan Komunikasi Mantan Narapidana dalam Berinteraksi dengan Masyarakat," *Interaksi Online* 10, no. 3 (2022): 678.

⁹² Herlina Manullang, and July Esther. "Guidance Concept for Convicts in Penitentiary as Legal Means to Minimize Narcotics Abuse," *Jurnal IUS Kajian Hukum Dan Keadilan* 11, no. 2 (2023): 348.

approaches and supporting sustainable social harmony.⁹³ Oversight based on maqāṣid indicators ensures that digital interventions remain humane and inclusive, reinforcing the restorative justice goals of Law Number 22/2022.⁹⁴

Strengthening inter-agency collaboration is critical to address the lack of coordination.⁹⁵ Unified digital platforms integrating police, prosecutors, courts, and correctional institutions can streamline data sharing.⁹⁶ For instance, a digital database for plea bargaining under the Draft Criminal Procedure Code's "special path" (Article 199) could expedite sentencing while protecting rights.⁹⁷ Partnerships with job training institutions and private sectors enhance employment access.⁹⁸

The Smart Prison concept, encompassing digitized administration, AI-based security, and transformative rehabilitation, represents a visionary approach. AI-driven CCTV reduced security violations, but high costs and infrastructure gaps limit implementation. Continuous HR training and evaluation ensure ethical operation, aligning with restorative justice principles.⁹⁹ Additionally, digital tools supporting alternative sentencing, like social work penalties, can alleviate overcrowding and enhance rehabilitation, reflecting the Draft Criminal Code's pluralistic approach.¹⁰⁰ By addressing infrastructure, literacy, security, and socio-cultural barriers, these strategies transform correctional systems into transparent, rights-focused institutions.

⁹³ Agam Ibnu Asa, Muhammad Mukhtasar Syamsuddin, Ahmad Zubaidi, and Agus Wahyudi, "Restorative Justice is a Progressive Breakthrough in Resolving Criminal Law Problems," *International Journal of Law Reconstruction* 9, no. 1 (2024): 162.

⁹⁴ Bunyamin Bunyamin, Firdaus Arifin, Ihsanul Maarif, Robi Assadul Bahri, Sekolah Tinggi Hukum Galunggung, and Indonesia Mohd Kamarulnizam Abdullah, "Reforming Indonesia's Correctional System: The Role of Maq Āṣ Id Al-Syar Ī' Ah in Ensuring Justice and Rehabilitation," *De Jure: Jurnal Hukum Dan Syaria'h* 17, no. 1 (2025): 64.

⁹⁵ Imam Hidayat, Andi Wapa, and Harun Arrasyid, "Sistem informasi pendataan narapidana pada lapas menggunakan web," *Jurnal Ilmiah Sistem Informasi Dan Ilmu Komputer* 2, no. 1 (2022): 8.

⁹⁶ Anis Widyawati, Dian Latifiani, Helda Rahmasari, and Ade Adhari, "Optimizing Oversight: Developing an Ideal Framework for Supervision Prisoners' Rights Allocation," *IJCLS (Indonesian Journal of Criminal Law Studies)* 9, no. 2 (2024): 198. See too, Gaffar Waliyondi, Muhammad Husein Maruapey, and Saprudin Saprudin, "Implementasi Teknologi Informasi dalam Meningkatkan Transparansi dan Akuntabilitas Administrasi Publik di Rumah Tahanan Kelas I Depok," *Ranah Research: Journal of Multidisciplinary Research and Development* 7, no. 4 (2025): 2549.

⁹⁷ Haeranah Haeranah, Hijrah Adhyanti Mirzana, Andi Muhammad Aswin Anas, Ismail Iskandar, Arnita Pratiwi Arifin, Ulil Amri, and Normiati Normiati, "The Concept of Plea Bargain in the Criminal Process System in Indonesia," *Law Reform* 21, no. 1 (2025): 13.

⁹⁸ Umi Enggarsasi, and Nur Khalimatus Sa'diyah, "Impact of Rehabilitation Programs in Indonesian Correctional Institutions on Reducing Recidivism Rates," *Jurnal Hukum* 41, no. 2 (2023): 429.

⁹⁹ Moch Fauzan Zarkasi, Nur Azisa, and Haeranah Haeranah, "Implications of renewal system of criminal justice based on the principles of restorative justice on the role of probation and parole officer," *Khazanah Hukum* 4, no. 1 (2022): 38.

¹⁰⁰ Januar Rahadian Mahendra, and Silas Oghenemaro Emovwodo, "Monodualistic and Pluralistic Punishment Politics in Criminal Code Reform: Lessons from Indonesia," *Journal of Law, Environmental and Justice* 1, no. 3 (2023): 232. M. Musa, Elsi Elvina, and Evi Yanti, "Criminal Social Work To Overcome Overcapacity In Post-Pandemic Prisons," *Yuridika* 38, no. 1 (2023): 59.

Continuous monitoring, as emphasized by Widyawati et al.¹⁰¹ ensures alignment with Indonesia's restorative justice framework, reducing recidivism and fostering sustainable social reintegration.

D. CONCLUSION

This study demonstrates that digital transformation in Indonesia's correctional system is reshaping rehabilitation and social reintegration through more efficient, transparent, and accountable practices. The findings highlight three key contributions of digitization: first, enhanced rehabilitation programs supported by online learning platforms, virtual counseling, and digital-based vocational training; second, greater transparency and accountability in inmate management through integrated information systems that reduce maladministration and strengthen public trust; and third, improved pathways for social reintegration via digital entrepreneurship initiatives and technology-based workforce connections. Together, these advances signify a shift toward a more humane correctional paradigm rooted in restorative justice, as reinforced by Law Number 22 of 2022.

Despite this progress, the success of digital transformation is contingent upon infrastructure readiness, skilled human resources, and strong cross-sector collaboration. Limited internet access, uneven facility capacity, and gaps in data protection present persistent barriers. Additionally, stigma against former inmates and weak coordination between state and non-state actors continue to hinder reintegration efforts.

The implications of these findings are twofold. For policy, sustained investment in digital infrastructure, cybersecurity, and officer training is critical to institutionalizing Smart Prisons while safeguarding human rights. For practice, collaboration with local governments, NGOs, and the private sector is essential to expand rehabilitation opportunities and reduce social stigma. Moreover, regulatory support and budget sustainability must be ensured through a strong commitment by the government and the House of Representatives (DPR) in public policy. Finally, for theory, this study underscores the importance of framing correctional reform within restorative justice, where technology serves not merely as an administrative tool but as a catalyst for inclusive and sustainable social recovery.

¹⁰¹ Anis Widyawati, Dian Latifiani, Helda Rahmasari, and Ade Adhari, "Optimizing Oversight: Developing an Ideal Framework for Supervision Prisoners' Rights Allocation," *IJCLS (Indonesian Journal of Criminal Law Studies)* 9, no. 2 (2024): 194.

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