

Research Article

The Potential Application of The Bridging Approach In Community-Based Corrections In Indonesia: A Comparative Perspective

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ABSTRACT

Electronic Monitoring (EM) constitutes a sophisticated surveillance mechanism that epitomizes technological advancements within the legal sphere and acts as a feasible substitute for conventional detention practices. Nations such as South Korea have adeptly incorporated EM into a meticulously designed, community-centric training framework. Indonesia is encouraged to adopt EM; however, the effective realization of this initiative necessitates alterations to the prevailing legal and social infrastructure. This research endeavors to investigate the feasibility of EM implementation in Indonesia through a comparative analysis with the established framework in South Korea, focusing particularly on the alignment of correctional institutions, technological systems, and community engagement. Employing a comparative judicial methodology, this study assesses the legal framework, institutional arrangements, and operational procedures pertaining to EM in both jurisdictions. Findings indicate that South Korea has established a comprehensive national framework for EM, supported by centralised monitoring facilities located in Seoul and Daejeon, regional parole offices, and coordinated oversight in conjunction with law enforcement agencies. In contrast, Indonesia's correctional system remains hampered by fragmented regulatory measures, inadequate institutional collaboration, and limited technological capabilities. The lack of EM as a formally recognised legal instrument limits alternative sentencing options and exacerbates prison overcrowding. This study concludes that Indonesia requires legislative reform, capital investment in monitoring infrastructure, and enhanced inter-agency collaboration to facilitate the effective implementation of EM.

Keywords: Community-Based Corrections; Electronic Monitoring; Indonesian Criminal Code; Rehabilitation Technology.

A. INTRODUCTION

The implementation of electronic monitoring (EM) within community-based correctional frameworks signifies a more extensive transition towards a technology-oriented reform in the criminal justice system. In the Republic of Korea, the utilization of EM has

incrementally increased since its inception in 2008, as mandated by the Act on the Electronic Monitoring of Specific Sex Offenders (Han, 2017). This system is predominantly aimed at serious offenders, encompassing individuals guilty of violent crimes and sexual offenses, and is mandated as a stipulation of probation, parole, or

conditional release. The South Korean model amalgamates real-time GPS tracking with centralized oversight by correctional personnel, thereby enabling authorities to scrutinize offenders' movements and enforce curfews or exclusionary zones (Lee, Yoon, & Keum, 2024). Advocates, including those from Sweden and other European nations, assert that EM has enhanced public safety and diminished recidivism rates by fortifying post-release supervision while concurrently alleviating issues of prison overcrowding (Citrawan & Utomo, 2025). This assertion is substantiated by empirical data patterns revealed in the research conducted by Al Weswasi and Bäckman, which demonstrates that in Sweden, the disengagement from the labor market is significantly associated with a marked decrease in the frequency of recidivism subsequent to the implementation of electronic monitoring (EM) (Weswasi & Bäckman, 2025). Nevertheless, concerns remain regarding its invasive nature, implications for data privacy, and the potential escalation of punitive surveillance beyond traditional incarceration practices (Al-Mahasneh et al., 2024); (Buccafurri et al., 2024); (Kornhauser & Laster, 2014); (Richter, Ryser, & Hostettler, 2024).

On the other hand, Indonesia faces structural and regulatory challenges that hamper EM adoption. The correctional system in Indonesia still relies heavily on imprisonment, with prison overcrowding exacerbating issues of inmate welfare, rehabilitation, and reoffending rates (Sugiharti et al., 2022). Despite the

emergence of discussions advocating for alternative sentencing approaches, particularly in light of escalating prison populations, legal and logistical impediments persist, hindering the effective implementation of EM. Moreover, concerns surrounding financial resources, technological infrastructures, and judicial discretion further intensify the difficulties associated with the adoption of electronic monitoring (EM) as a viable correctional alternative (Handayani & Hardiyanti, 2025).

In addition to policy and infrastructural considerations, the efficacy of EM is contingent upon extensive social and cultural dynamics (Wang & Tucker, 2023). Public attitudes towards supervision, the degree of confidence in law enforcement, and perspectives on the reintegration of offenders significantly influence the effectiveness of EM initiatives (Latifiani et al., 2022). Within the context of South Korea, EM is perceived as a technological instrument that bolsters accountability and augments post-release rehabilitation efforts (Jin-young, 2024). However, debate persists regarding its long-term rehabilitative value and its compatibility with South Korea's correctional philosophy, which emphasizes deterrence, moral reform, and community safety (Prize, Alam, & Anand, 2025). In Indonesia, where a punitive approach to punishment still predominates, acceptance of EM will likely require changes in legal philosophy and public opinion, in addition to legislative and technological advancements.

Furthermore, ethical considerations pertaining to electronic monitoring (EM) persistently incite discourse within both frameworks. Concerns pertaining to equity arise when assessing the financial and psychological burdens placed upon supervised individuals, as electronic monitoring (EM) may inhibit mobility and social participation (Grenet, Grönqvist, & Niknami, 2024). This predicament elicits inquiries into economic disparity, considering that individuals hailing from lower socioeconomic strata may face substantial challenges in complying with program requirements or in securing necessary support services (Williams & Weatherburn, 2022). Issues surrounding data security and privacy further underscore the potential dangers of unauthorized access to personal information, particularly in an epoch characterized by pervasive digital surveillance. While states seek to balance public safety, rehabilitation and human rights in their correctional policies, the role of electronic monitoring (EM) in community-based corrections remains a subject of ongoing discussion and evaluation (Nellis, 2021).

Despite these obstacles, the escalating dependence on electronic monitoring (EM) signifies a global paradigm shift towards technology-oriented reform in the criminal justice system. In the Republic of Korea, EM initiatives have assimilated sophisticated technologies, including biometric authentication, artificial intelligence (AI)-driven behavioral evaluation, and predictive surveillance systems engineered to

foresee potential infractions (Lee, Lee, & Park, 2022). These technological advancements are designed to enhance the efficiency of monitoring processes while alleviating the administrative responsibilities faced by parole officers. Nevertheless, akin to other jurisdictions, the implementation of algorithmic decision-making within EM engenders apprehensions regarding biases inherent in predictive models and a deterioration of individualized evaluations (Richter, Ryser, & Hostettler, 2024); (Prudenza et al., 2021).

In addition to South Korea and Indonesia, nations globally have commenced trials with EM as an integral component of expansive correctional strategies, yielding varying levels of efficacy (Natalis & Puwanti, 2025). Within Europe, countries such as Sweden and the Netherlands prioritize a rehabilitative methodology, utilizing EM as an adjunct to community-oriented interventions, rather than merely a tool for supervision (Page & Soss, 2021). These frameworks emphasize reintegration by amalgamating electronic monitoring (EM) with vocational programs, substance abuse rehabilitation, and psychological health services, thereby illustrating that the efficacy of EM transcends mere oversight and is intricately associated with the comprehensive architecture of offender supervision.

Furthermore, the ethical implications of electronic monitoring (EM) continue to provoke debate across diverse legal jurisdictions. Critics argue that electronic monitoring obscures the

distinction between individual autonomy and confinement, giving rise to a form of “digital incarceration” that extends penal surveillance beyond traditional correctional settings (Graham & McIvor, 2017a). This circumstance prompts fundamental questions concerning the balance between societal safety and personal freedoms, particularly as EM technologies evolve and gain increased ubiquity. The economic ramifications also represent a divisive issue, with concerns that cost-sharing arrangements may exacerbate financial inequalities by imposing uneven burdens on economically marginalized offenders. As EM technology advances, its relevance within the modern correctional landscape is anticipated to be significantly shaped by the approaches lawmakers adopt in addressing these complex legal, technological, and ethical challenges.

Furthermore, Indonesia's strategy towards criminal justice reform is influenced by overarching socio-political dynamics, encompassing initiatives to modernize the legal system while ensuring alignment with national principles and cultural traditions. The restorative justice tenets enshrined in the Pancasila (five principles) and the Indonesian Criminal Code (KUHP) serve as the foundation for alternatives to incarceration; however, the practical implementation of these tenets remains constrained, particularly in instances of recidivism or offenses perceived as severe by the public (Ganapathy & Balachandran, 2016). It is acknowledged that the principles of Pancasila are integrated within the existing frameworks and

possess a direct correlation with the orientation of restorative justice; for instance, the first principle embodies the restorative notion that peace must be upheld, reflecting a core teaching of faith in Indonesia. Moreover, the second and third principles facilitate a form of restorative justice that prioritizes endeavors for unity and reconciliation among the disputing parties to attain peace. Furthermore, according to the fourth and fifth principles, restorative justice must also emphasize deliberation and equity for the parties involved in the dispute. This scenario presents a significant challenge in assimilating EM into Indonesia's legal architecture, as policymakers are tasked with reconciling technological progress with extant legal doctrines and societal expectations pertaining to punishment and rehabilitation (Shabrina & Putrijanti, 2022).

Moreover, the financial and logistical exigencies associated with the nationwide implementation of electronic monitoring (EM) engender further apprehensions. In contrast to South Korea, which benefits from a robust digital infrastructure and a centralized correctional administration, Indonesia encounters a regional disparity in technological readiness, wherein rural locales frequently lack the requisite connectivity and resources to adequately support electronic monitoring systems. This geographical inequity accentuates the necessity for substantial investments in digital infrastructure, personnel training, and oversight protocols to facilitate an equitable and effective deployment of EM. Furthermore, uncertainties pertaining to funding

allocation persist, encompassing deliberations on whether the costs associated with EM should be borne by governmental entities, through public-private partnerships, or supplemented by international aid (Piquero et al., 2010).

Public perception and acceptance of EM also plays an important role in determining its success (Bottoms, 2006). Unlike in South Korea, where EM has gradually gained public trust as a tool to ensure community security, Indonesia's legal and cultural context requires a more cautious approach. Community attitudes toward supervision, personal privacy, and offender reintegration can influence policy adoption as well as the level of compliance of supervised individuals. Moreover, without a broad public awareness campaign and legal literacy program, misunderstandings about the purpose and function of EM can trigger resistance from both the public and stakeholders in the criminal justice system (Wardana, Rahayu, & Sukirno, 2024).

As the discourse concerning electronic monitoring (EM) in Indonesia evolves, it becomes essential to assess the most effective strategies for integrating this technology within the nation's legal and societal frameworks. The implementation of pilot programs aimed at evaluating the effectiveness of EM across various contexts, including pretrial release, probation, and parole, may yield empirical evidence regarding its feasibility and aid policymakers in refining data-driven implementation strategies (Kaylor, 2021). Furthermore, engagement with international entities and nations that have effectively instituted

Electronic Monitoring (EM) systems, exemplified by South Korea, can yield critical insights into optimal methodologies aimed at alleviating inherent risks while maximizing the advantages of this technology-driven model of correctional oversight (Feka et al., 2025).

Moreover, a comparative examination of the experiences of these two nations highlights the importance of contextual adaptation in the application of EM. South Korea has leveraged over a decade of experience to enhance its EM strategies through the adoption of GPS tracking, real-time notifications, and strong interagency collaboration between correctional facilities and law enforcement bodies (Kim et al., 2023); (Park & Lee, 2020). Nonetheless, persistent issues related to data privacy, human rights considerations, and the societal stigma attached to offenders necessitate thorough policy evaluation. Addressing these challenges requires reforms that emphasize transparency, accessibility, and ethical governance, all while maintaining the efficacy of EM as a credible alternative to incarceration (Bail Project, 2023).

In contrast, Indonesia finds itself at a critical juncture in the evolution of its electronic monitoring (EM) strategy and possesses the beneficial opportunity to derive insights from the successes and shortcomings of pre-existing frameworks. By integrating EM within a restorative justice paradigm, Indonesia has the capacity to emphasize rehabilitation and reintegration, rather than solely focusing on oversight and control (Beyens, 2017).

Nevertheless, the realization of this objective necessitates the establishment of a comprehensive legal framework, an extensive technological infrastructure, and public awareness initiatives to foster proper acceptance and implementation.

In South Korea, the determination of eligibility for the electronic monitoring (EM) programme is contingent upon judicial discretion and an assessment of offender risk, specifically targeting individuals deemed likely to achieve successful reintegration under structured supervision (Lee, Yoon & Keum, 2024). The programme's efficacy is contingent upon the existence of explicit guidelines, appropriate proportionality in application, and consistent enforcement mechanisms (Yusliwidaka & Roisah, 2025). As Indonesia formulates its own policy, it is imperative to establish criteria that effectively balance public safety with rehabilitative objectives, ensuring that EM is neither excessively employed nor in conflict with its articulated aims. Furthermore, apprehensions regarding data privacy, erroneous monitoring, and excessive surveillance highlight the urgent need for rigorous regulations governing the collection, storage, and utilization of monitoring data. To avert infringements of civil liberties, it is essential that independent oversight entities, judicial review procedures, and legal frameworks for monitored individuals are incorporated as fundamental components of the EM system (Zackseski, 2020).

State of the art or previous research will be presented to determine the elements of novelty in

the current research, in the first previous study entitled "*A Systematic Review of the Effectiveness of the Electronic Monitoring of Offenders*" by Jyoti Belur et al. This previous study discusses the effectiveness of EM from various countries through existing research forms. And with the elaboration of several studies totaling approximately 18 (eighteen) studies that have been conducted, EM contains varying effectiveness from various countries both in European countries and in other countries. The success of EM is determined by the form of crime committed by the perpetrator of the crime and the most often effective is the form of monitoring of sex offenders. In essence, the implementation of EM also needs to consider the tendencies of a crime to ensure the effectiveness of implementation (Belur et al., 2020). The difference between the previous study and the current study is that the previous study discusses the level of effectiveness of the Implementation of EM, while the current study examines how EM is implemented in a country that has previously implemented EM and is trying to penetrate or adopt the law in Indonesia while still considering the existing legal system and culture.

The second study, entitled "*Global Positioning System Monitoring of High-Risk Sex Offenders: Implementation Challenges and Lessons Learned*," by Alyssa W. Chamberlain et al., examines the implementation of EM, specifically in San Diego County (California). The results indicate that implementation by parole supervision agencies faces various challenges,

such as the lifetime supervision of sex offenders. Therefore, additional supervisory resources are needed to ensure supervision, especially for offenders subject to lifetime supervision (Chamberlain et al., 2019). The difference between this previous study and the current study lies in the focus. The previous study focused more on the implementation of EM in San Diego and the obstacles to its implementation for sex offenders. The current study focuses more on the implementation of EM in Korea and other countries that have implemented EM. Furthermore, the current study also discusses the adaptation of legal and social systems when EM is implemented in Indonesia.

The third previous study, entitled "*The Electronic Monitoring of Offenders: Penal Moderation or Penal Excess?*" by Richard Jones. This previous research discusses the philosophical study in the application of EM, where in its application EM has a tension between the individual value of human rights and the value of legal certainty, where indeed EM is a good idea to carry out supervisory actions, but it also needs to consider the abuse by supervisors in supervising someone, in practice there could be many errors or abuses, for that regulation needs to bridge the tension in the implementation of EM and ensure that EM is not used as a means of exploiting someone's individual (Jones, 2014). The difference between the previous research and the current research is that, in the previous research, it focuses more on the study of value tensions when EM is implemented, while in the

current research, it examines the application of EM in other countries and efforts to adopt it to Indonesia, and examines how legal adaptations must be implemented to implement EM practices.

The fourth previous study, entitled "*Effect of Early Prison Release with Electronic Monitoring,*" was conducted by Enes Al Weswasi. This study focused on the implementation of Electronic Monitoring (EM) in Sweden. It found that EM was implemented for crimes involving imprisonment for less than six months (Weswasi, 2025). This study stated that EM implementation in Sweden was very effective, even reducing the rate of reoffending, especially among first-time offenders. The difference between this previous study and the current study is that the former focused more on the implementation of EM in Sweden and its effectiveness. This study examines the practice of EM implementation in other countries and examines its implementation in Indonesia.

The concluding prior investigation, titled "Under Surveillance: Does Global Positioning System Monitoring of Offenders Reduce Recidivism?" authored by Anna L. Hawkes et al., effectively corroborated that, in regard to the execution of Electronic Monitoring (EM) in New Zealand, considerable discrepancies were identified between the GPS-monitored and non-GPS cohorts concerning the rates of re-offending for both non-violent and violent offenses, thereby indicating that the group monitored by GPS demonstrated diminished recidivism rates. The findings of the study advocate for the potential

expansion of EM to encompass additional categories of crime beyond sexual offenses; however, it is imperative that such an expansion be accompanied by a balanced allocation of supplementary resources for supervision (Hawkes, Selbom, & Gilmour, 2024). The distinction between the prior investigation and the present study lies in the former's emphasis on the intention to broaden the application of EM to encompass various crimes based on the demonstrated efficacy of EM implementation, whereas the current study predominantly explores the modalities of EM implementation in a nation that has previously adopted EM while endeavoring to adapt or integrate such legislation within Indonesia, all the while remaining cognizant of the prevailing legal and social frameworks.

Drawing from the implementation and preceding research, it is evident that the efficacy of EM implementation necessitates a confluence of technological advancements, legislative reform, and community-based support to ensure that individuals under supervision are not merely monitored, but are also afforded opportunities for successful reintegration into society (Berry & Berry, 2024). At the international level, this research contributes to the global study of alternatives to imprisonment in various legal and cultural contexts. By studying how various jurisdictions, including South Korea, implement EM, policymakers and criminal justice practitioners can learn from best practices and avoid common mistakes. As technology continues to shape correctional strategies worldwide,

ongoing research, pilot programs, and cross-border collaboration will be key to refining EM systems to make them more equitable and effective in achieving justice and rehabilitation goals (Weswasi, 2025).

B. RESEARCH METHODS

This research uses a normative research approach that focuses on the legal framework, policies, and regulations governing the implementation of *electronic monitoring* (EM) in South Korea and Indonesia. The analysis is conducted based on statutory provisions, court decisions, international legal instruments, and academic literature to assess the implementation, effectiveness, and challenges of EM as an alternative form of punishment. Normative legal research methodologies are employed through the scrutiny of both primary and secondary legal sources, which encompass statutory provisions, governmental regulations, judicial determinations, and legal doctrines. Moreover, comparative legal research methodologies are utilized to investigate the disparities and commonalities in electronic monitoring (EM) frameworks across the two nations, aiming to discern optimal practices and prospective legal reforms.

This inquiry is predicated upon secondary legal materials, which incorporate primary legal sources, such as statutes and regulations pertinent to community-based correctional systems in both South Korea and Indonesia. In the context of South Korea, the legal documents assessed include the Act on the Electronic Device

Attachment for Specific Criminal Offenders, instituted in 2008, its associated implementing regulations, and the guidelines from the Ministry of Justice that govern the execution, duration, and oversight of electronic monitoring. In Indonesia, the analysis encompasses legal instruments such as the Criminal Code (KUHP) in both its prior version (Law No. 1 of 1946) and its revised iteration (Law No. 1 of 2023), Law Number 22 of 2022 pertaining to Corrections, alongside various governmental regulations and policy proposals that relate to non-custodial sanctions and correctional reform. Furthermore, the international legal framework and recommendations established by the United Nations Office on Drugs and Crime (UNODC) are scrutinized to situate this research within the broader context of global standards and exemplary practices.

In addition to primary legal sources, secondary legal materials, including scholarly articles, monographs, and legal commentaries regarding electronic monitoring, criminal justice reform, and alternative sentencing, were also subjected to analysis. Reports generated by governmental entities, non-governmental organizations, and international institutions are employed to evaluate the efficacy, ethical ramifications, and operational challenges associated with the implementation of electronic monitoring. Furthermore, this study examines court decisions and legal precedents in South Korea, particularly those interpreting the proportionality, constitutionality, and human rights implications of EM in Korean law, to understand

its implementation and judicial oversight mechanisms (Rahayu et al., 2025).

The data collection technique employed was document analysis, involving an in-depth review of relevant EM-related laws, regulations, policy documents and court decisions. The analysis included an assessment of how various jurisdictions structure EM programmes, the administrative institutions responsible for oversight and the legal basis for their implementation. International guidelines relating to the implementation of EM, human rights considerations and the best correctional practices, particularly those formulated by the United Nations Office on Drugs and Crime (UNODC), the Council of Europe and the Asian and Pacific Conference of Correctional Administrators (APCCA), were also analysed to provide a globally oriented, comparative perspective on the potential for the implementation of EM in Indonesia.

Qualitative legal analysis was used to interpret the obtained data. This approach first involves a descriptive analysis to identify and summarise the legal frameworks governing EM in both countries. This is then followed by a prescriptive analysis to assess the adequacy of existing regulations and provide legal reform recommendations based on the comparative findings. The study conducts an in-depth comparative analysis of South Korea's experience of implementing EM, focusing on the integration of GPS-based monitoring, centralised control systems, and community oversight mechanisms.

The aim is to identify key elements that could be applied to Indonesia's legal system and correctional philosophy.

In addition, this research also addresses the legal and ethical challenges associated with EM, including issues of proportionality, human rights, privacy, and data protection. An analysis was conducted of the impact of EM on the rights and economic conditions of actors, with particular attention to aspects of justice and accessibility. The funding model implemented by the South Korean government alleviates the financial strain on offenders; however, discussions continue surrounding issues of social stigma and breaches of privacy. Conversely, Indonesia must undertake a comprehensive assessment of the allocation of costs and the readiness of technological resources to ensure the ethical and equitable application of electronic monitoring (EM). This research further elucidates the potential dangers linked to excessive state surveillance and highlights the pressing need for well-defined regulatory protections, independent oversight bodies, and judicial review mechanisms to uphold accountability.

Through the application of this normative and comparative legal methodology, the investigation aims to contribute to the field of legal science and policy related to EM as a feasible alternative to conventional punitive measures. This research aspires to furnish a holistic perspective on the role of EM within the current correctional system, ensuring that aspects of security, rehabilitation, and human rights are

effectively integrated into its application. Drawing upon the experiences of South Korea, this analysis highlights the importance of a cohesive strategy that connects legal reform, technological progress, and community engagement to guide the transformation of Indonesia's correctional framework towards a more advanced, humane, and sustainable model.

C. RESULTS AND DISCUSSION

1. Electronic Monitoring in the Republic of Korea

Electronic monitoring (EM) in the Republic of Korea (South Korea) was introduced primarily to manage high-risk offenders and has evolved through a combination of legislative expansion, supervisory innovation, and institutional refinement. EM's legal basis is *the Act on Electronic Monitoring against Specific Criminal Offenders* (commonly known as *the Electronic Monitoring Act*), which was passed in 2007 and went into effect in 2008 after a series of highly publicized sexual assault cases raised national concerns about recidivism. Initially, EM was only applied to sexual offenders who were deemed to still pose a threat to public safety after their release. The Ministry of Justice is implementing EM as part of a broader strategy to strengthen post-release supervision, improve community safety, and reduce the risk of recidivism among serious offenders.

Throughout the temporal continuum, the scope and functional operations of electronic monitoring (EM) within the jurisdiction of South

Korea have experienced a swift augmentation, primarily due to alterations in legislative frameworks and executive mandates. Preliminary evaluations conducted from 2009 to 2012 revealed a significant decline in recidivism rates among monitored sexual offenders when juxtaposed with the pre-implementation phase of EM, thereby incentivizing policymakers to expand the legislative parameters to include perpetrators of an array of other grave offenses. Legislative modifications enacted in 2012 and 2013 assimilated offenders convicted of homicide, theft, and child abduction, denoting an escalating confidence in the prospective deterrent effectiveness of EM (Badriyah et al., 2025). Subsequent reforms established in 2020 not only broadened the applicability of EM to individuals on parole, probation, or bail, regardless of the offense type, but also metamorphosed the system from a narrowly delineated apparatus into a holistic entity for community-based correctional supervision (Ministry of Justice Crime Prevention Policy Bureau, 2021). The deployment of EM has witnessed a considerable surge: during its inaugural year (2008), approximately 151 former sexual offenders were subjected to ankle monitoring devices, yet by 2020, this number had ascended to roughly 4,847 (HyeongMin, 2021).

Among the most compelling empirical findings emerging from the execution of EM in South Korea is the conspicuous reduction in recidivism rates among individuals convicted of sexual assault, homicide, and robbery. For example, prior to the implementation of EM

(2003–2007), the recidivism rate for sexual assault offenders (absent EM oversight) was documented at an average of 14.1%; conversely, for analogous offenders subjected to EM supervision during the 2015–2019 timeframe, this rate plummeted to approximately 2.1%, indicating a reduction of nearly one-seventh. In the domain of homicide, the recidivism rate for individuals devoid of EM supervision decreased from 4.9% to approximately 0.1%; similarly, in instances of robbery, the rate diminished from 14.9% to 0.2% (Ministry of Justice Crime Prevention Policy Bureau, 2021).

The Department of Justice administers the EM program through its *Correctional Policy Division*, which oversees the installation, monitoring, and enforcement of conditions for offenders under supervision. Offenders are fitted with ankle monitors that incorporate Global Positioning System (GPS) technology, which persistently transmits real-time locational information to a control center that operates continuously, 24 hours a day, seven days a week, under the oversight of designated officers (Lee, Yoon, & Keum, 2024). In circumstances where individuals under supervision breach designated restricted areas or attempt to tamper with the monitoring apparatus, the system autonomously activates an alert, thereby enabling authorities to initiate timely intervention. This system is reinforced by regional monitoring facilities strategically dispersed across the nation, in conjunction with a centralized database that amalgamates offender histories, movement

trajectories, and compliance records (Park & Kim, 2023). This framework epitomizes the Korean government's commitment to integrating technological accuracy with human oversight to enhance public safety.

From an operational perspective, the Electronic Monitoring (EM) system is administered through two principal Electronic Monitoring Centers (EMCs) situated in Seoul and Daejeon, which function as national focal points for data processing and surveillance. These centers maintain a continuous operational capacity utilizing advanced geographic information systems (GIS) to monitor offenders' locations, identify violations, and issue alerts. Furthermore, they preserve a database that encompasses individual risk evaluations, behavioral histories, and compliance records that inform adjustments to supervision levels. Regional advisory offices and specialized "EM Teams" function as field units, addressing alerts, performing routine inspections, and conducting home visits to ensure adherence to regulations. These teams collaborate closely with local law enforcement to guarantee a rapid response to identified violations. The synergy among monitoring centers, regional offices, and the police network illustrates the intricate coordination characteristic of South Korea's methodology in electronic correctional management (Kim, 2022).

Empirical research indicates that EM programs within South Korea have markedly contributed to a considerable decrease in recidivism rates associated with serious offenses.

A study carried out in 2020 and published by the Korean Institute of Criminology and Justice indicated that sexual offenders placed under electronic monitoring experienced a 62 percent decrease in the chances of reoffending when compared to those who completed their sentences without any oversight (Bae et al., 2023). Similar results were reported by Belur et al. (2020), revealing that offenders under EM supervision had longer periods between reoffending events and showed greater adherence to post-release requirements. The annual report from the Ministry of Justice in 2019 also highlighted that EM contributes to diminishing public anxiety about crime by bolstering public trust in the government's capacity to monitor high-risk individuals beyond conventional correctional institutions (Graham & McIvor, 2017b).

Legal instruments also stipulate the duration of monitoring based on the seriousness of the crime, the likelihood of recidivism, and other characteristics of the offender. For example, the law allows for monitoring periods via ankle bracelets of up to 10 years in some cases. This device has the ability to detect damage, release, and attempted manipulation of the strap. Non-compliance may result in sanctions, including revocation of parole or additional criminal penalties (Ministry of Justice Crime Prevention Policy Bureau, 2021).

However, there is some disagreement about the expansion of this system. Critics highlight issues surrounding fairness and human

rights, as well as the additional workload. Lawyers argue that wearing ankle bracelets at all times can restrict personal freedom too much, particularly for individuals who have not committed any crimes or have already served their time. There have also been moral arguments about how to treat individuals under surveillance, given that the visible presence of these devices can hinder their ability to find employment and participate in their communities. Surveillance officers claim that their roles are becoming increasingly challenging and stressful due to the need to monitor numerous offenders simultaneously (Bae et al., 2023); (Scottish Government, 2019).

Technological issues also make implementation more challenging (Turisno et al., 2025). The system relies heavily on GPS and cellular networks; when these connections fail, the system can send false alerts or lose signal, resulting in reduced efficiency and unnecessary investigations. In response, the Ministry of Justice has started carrying out regular system updates and adding devices that cannot be tampered with, as well as improving the algorithms used for satellite-based tracking. In 2021, the government set up a rapid investigation team to respond more quickly to EM violations. This meant they could respond immediately to cases of vandalism or zone violations (Arvante, Sulistyawan & Riyanto, 2025).

The Korean model embodies a distinctive amalgamation of punitive and preventive rationales. Although the government originally

endorsed electronic monitoring (EM) as a mechanism for rehabilitation and reintegration, prevailing public discourse and political pressures have increasingly accentuated its preventive capacity. The incorporation of EM into parole and probation systems exemplifies a dual methodology: harmonizing control with rehabilitation; however, certain scholars caution that an excessive dependence on technological oversight may redirect the correctional framework towards preventive detention, rather than authentic social reintegration (Lee, 2024). Notwithstanding these critiques, EM in South Korea persists as a paradigm for technological governance within East Asia, demonstrating how innovation, legislative endorsement, and institutional capability can converge to establish a comprehensive, community-oriented supervision framework that prioritizes safety and operational efficiency.

2. Challenges and Operational Strains

Despite strong empirical results in the reduction of recidivism rates for certain crimes, several challenges have emerged in implementation. One major challenge is workload and capacity. Probation officers responsible for overseeing monitored individuals report significant increases in caseloads over time. In 2008 each officer supervised roughly 3 (three) former sex offenders; by 2020 the average had risen to about 21.7 persons per officer (Dong-Hwan, 2021). Another problem is device tampering and non-compliance. The number of tampering incidents has increased with usage. For example, in 2019

there were 23 tampering cases, while by a more recent year, only partial data is available but shows a persistent occurrence. In response, the Ministry of Justice formed a Rapid Investigation Team in 2021 with about 78 experienced probation officers to respond immediately to violations, with dispatch teams in 13 probation offices, including Seoul and Busan. This team was designed to increase the on-site response rate, which had been only 18.4% for compliance violations before the team's establishment (HyeongMin, 2021).

Moreover, burnout among probation officers is a recurring concern. Officers report excessive stress from high caseloads combined with continuous monitoring obligations, home visits, and responding to alarms. Some officers argue that for effective supervision, caseloads should be limited to around 10 persons each for high-risk categories, but current figures far exceed that. Budget constraints have limited the hiring of additional specialized officers. Privacy and dignity issues are part of the ongoing debate. Continuous GPS tracking raises issues about how location data is stored, who can access it, and for what purposes. The law includes provisions for detecting strap damage or removal, but less clarity exists in public sources about specific rules for data retention, outside access, and remedies for wrongful or erroneous violation alerts (Ministry of Justice Crime Prevention Policy Bureau, 2021).

Another concern is how EM integrates with rehabilitation and fairness. Because monitored individuals are by definition higher risk, many face

stigma, difficulties re-entering employment or social acceptance. There is some evidence from Korean studies that EM plus probation officer support and rehabilitative programming mitigate these issues, but incomplete resource allocation and uneven regional capacity mean that rehabilitative supports are not uniformly available. The insufficiency of rehabilitative services within certain local probation offices, coupled with delays in the responsiveness to alerts, may diminish the overarching societal advantages of Electronic Monitoring (EM) (Kim, 2022).

Regarding legal oversight, although judicial bodies adjudicate eligibility and duration, apprehensions persist concerning the maintenance of transparency and consistency in sentencing and monitoring practices. For instance, variances in the methodologies employed by probation offices in the management of device removal, noncompliance issues, and the prolongation of monitoring intervals can foster perceptions of inequity. Although legislation delineates penalties for infractions of EM conditions, the implementation and oversight practices exhibit considerable variability (Ministry of Justice Crime Prevention Policy Bureau, 2021).

3. Key Patterns in the Korean Electronic Monitoring System

From the empirical evidence in South Korea, several key patterns emerge that are relevant for jurisdictions considering the implementation of electronic monitoring (EM).

1. Selecting the Right Actor

Significant benefits were seen especially among high-risk groups such as sexual assault perpetrators. Its effectiveness is less certain for low-risk offenders in reducing recidivism if only supervised with EM without additional support.

2. Intensity and Responsiveness of Supervision

Real-time monitoring is just one part of the system. Effectiveness depends largely on how quickly officers respond to alerts, investigate vandalism or violations, and provide rehabilitative support. Delays or lack of response can negate the advantages of EM.

3. Availability of Adequate Resources

As the number of cases grows, if staffing, training, and technological infrastructure are not increased commensurately, performance will decline. Officer burnout *and* slow response are risk factors. The credibility of the system will be undermined if oversight remains a mere formality rather than robust and effective oversight.

4. Legal Protection and Transparency

It is imperative to establish precisely defined legal frameworks concerning eligibility criteria, duration, repercussions for violations, data usage and retention, appeal processes, and oversight mechanisms. In the absence of clearly articulated guidelines, the likelihood of arbitrary or inconsistent enforcement escalates, thereby jeopardizing the legitimacy of the system.

5. Integration with Rehabilitation Program

Electronic monitoring (EM) exhibits enhanced efficacy when integrated with ancillary supports such as counseling, vocational training, and social reintegration initiatives. Strategically

oriented rehabilitation not only alleviates negative behaviors but also fosters positive behavioral change.

6. Public Trust and Social Perception

Occurrences of device tampering or recidivism among individuals under surveillance can significantly erode public trust. Initiatives such as the formation of rapid response teams are specifically formulated to maintain this essential trust. Additionally, transparent reporting and performance evaluation metrics play a crucial role in achieving this objective.

Overall, the implementation of electronic monitoring in South Korea serves as a significant case study, demonstrating quantifiable reductions in recidivism rates for particular serious offenses, a considerable expansion of coverage, and continuous institutional learning. Empirical evidence substantiates that electronic monitoring can markedly decrease recidivism when applied within a well-defined legal framework, augmented by responsive oversight, adequate personnel resources, and a robust technological infrastructure. Concurrently, the Korean model also uncovers specific limitations: complexities in oversight, privacy concerns, regional disparities in service provision, and pressures on supervisory personnel. These systemic trade-offs and adaptations provide invaluable insights for countries such as Indonesia that aspire to incorporate electronic monitoring within their community-based correctional frameworks.

4. The Potential of Electronic Monitoring as Part of the Indonesian Legal System

The criminal justice system of Indonesia is confronted with considerable obstacles, particularly the acute issue of prison overcrowding and elevated recidivism rates. As of 2022, the nation's correctional institutions accommodated approximately 276,000 inmates, nearly twice their designed capacity of 132,107, resulting in inadequate and at times perilous living conditions (LBH Masyarakat, 2022). This congestion not only exerts pressure on resources but also impedes effective rehabilitation initiatives, thereby perpetuating a cycle of reoffending. Within this context, electronic monitoring (EM) presents itself as a viable alternative to conventional incarceration, providing a mechanism to oversee offenders within the community while addressing systemic challenges.

The implementation of EM has the potential to substantially mitigate the strain on Indonesia's correctional institutions. By permitting select offenders to fulfill their sentences under community supervision with monitoring, prison capacity can be preserved for individuals who represent a greater risk to public safety. This strategy not only alleviates overcrowding but also diminishes the financial burden associated with sustaining large inmate populations (Purwanti, 2017). A qualitative literature review investigating non-custodial alternatives, including restorative justice, probation, and community service, has demonstrated that these options effectively decrease prison populations and their associated expenditures (Rytter & Kambanella, 2020). EM, as a variant of non-custodial intervention,

corresponds with these findings, indicating its prospective effectiveness within the Indonesian milieu (Adonara, Ohoiwutun, & Taniady, 2025).

Moreover, EM aligns with Indonesia's dedication to restorative justice and community-based rehabilitation. By permitting offenders to stay in their communities, keep jobs, and meet family obligations, electronic monitoring (EM) aids in their reintegration into society. This ongoing connection is vital for decreasing recidivism, as individuals show a lower chance of reoffending when they have solid social and economic support systems. Research focused on enhancing technological applications in parole programs found that offenders preferred electronic monitoring via GPS tracking over intrusive police oversight, as it enabled them to maintain social connections and employment, thus facilitating a smoother reintegration experience (Suhartono, Rahmadiyanti, & Sarayar, 2021).

Nevertheless, the adoption of electronic monitoring (EM) in Indonesia requires the development of a comprehensive legal framework. Currently, the Indonesian Code of Criminal Procedure (Law No. 8 of 1981 on Criminal Procedure) (KUHP) does not explicitly address the use of electronic trials or monitoring, leading to legal ambiguities. Academics have advocated for reforms to integrate digital-based criminal justice protocols into the KUHP, thereby ensuring that EM functions within a transparent and consistent legal framework (Saputra, Setiodjatti, & Barkhuizen, 2023). Furthermore, the effective realization of EM necessitates

considerable investment in technological infrastructure and resources. The provision of contemporary technological devices and requisite support systems is imperative for the proficient execution of digital-based criminal justice. This encompasses not only the hardware and software for monitoring purposes but also the training of law enforcement personnel and the formulation of protocols to manage and address violations (Hutauruk et al., 2025).

Currently, the Indonesian legal system lacks a comprehensive framework for the implementation of EM. The existing penal code, the Criminal Code, does not include specific provisions for electronic monitoring as a viable alternative sentencing strategy. This legal shortcoming presents a considerable barrier to the adoption of EM, as the absence of regulations may lead to inconsistencies in its application and enforcement. Legal scholars have suggested that Indonesia should consider revising its criminal procedure statutes to incorporate EM (Saputra, Setiodjadt, & Barkhuizen, 2023). This may involve amendments to the Criminal Code to include stipulations for EM as a sentencing alternative for eligible offenders. Furthermore, it is crucial to establish guidelines pertaining to eligibility criteria, monitoring protocols, and legal accountability to guarantee the system's effectiveness and fairness.

Another critical legal consideration concerns the protection of offenders' rights under EM. In the absence of explicit regulations, the implementation of electronic monitoring could

result in violations of privacy or undue restrictions on individuals' freedoms. An adequately structured legal framework should address pertinent issues such as data protection, the duration of monitoring, and the establishment of mechanisms for the appeal or review of monitoring conditions (Indarti, 2016).

Public perception and acceptance of electronic monitoring (EM) represent critical components (Nugrahenti, Herliana, & Sugiharti, 2025). The cultivation of trust within the system necessitates a commitment to transparency, the protection of individual rights, and the demonstration of EM's effectiveness in enhancing public safety. Proactively engaging communities to disseminate information regarding the benefits and protective measures associated with EM may facilitate broader acceptance and cooperation (Diamantina, 2017). An examination of prison overcrowding from a human rights perspective highlights the importance of public participation and education in the implementation of non-custodial alternatives, asserting that societal support is essential for the success of initiatives such as EM (LBH Masyarakat, 2022).

The effective implementation of EM initiatives within Indonesia requires considerable investment in technological innovations and infrastructural enhancements. The success of EM programs relies on advanced tracking technologies, including GPS monitoring, radio frequency identification, and biometric verification. It is the responsibility of the government to guarantee that these technologies demonstrate

reliability, security, and resilience against tampering.

A significant obstacle in the deployment of EM technology in Indonesia stems from the nation's vast and diverse geographical landscape (Polanský, 2024). Many rural areas lack consistent internet connectivity and technological infrastructure, which may hinder the effectiveness of real-time tracking systems. To address this challenge, the Indonesian government may contemplate the establishment of hybrid monitoring systems that combine electronic tracking with periodic in-person evaluations for individuals residing in remote locales. Additionally, it is crucial to equip law enforcement personnel with the necessary competencies to effectively manage and oversee EM systems. In the absence of sufficient training, authorities may face challenges in interpreting electronic monitoring data or reacting appropriately to violations (Nurhayati & Suryadi, 2017). The allocation of resources towards specialized training initiatives for correctional officers, probation officers, and judicial officials would be vital for the seamless integration of EM into the criminal justice system (Setyowati, Abubakar, & Rodliah, 2017).

Public perception significantly influences the effective implementation of electronic monitoring within any judicial framework. In the Indonesian context, where incarceration is conventionally regarded as the predominant punitive measure, a transformation in societal perspectives towards electronic monitoring may

necessitate comprehensive public awareness initiatives. It is imperative for governmental bodies and legal institutions to inform the populace about the advantages of electronic monitoring, highlighting its function in promoting rehabilitation instead of solely serving punitive purposes (Budd & Mancini, 2017); (Richter, Ryser, & Hostettler, 2024).

A prominent ethical issue associated with electronic monitoring pertains to its potential ramifications for economically disadvantaged offenders. In various jurisdictions, individuals subjected to electronic monitoring are mandated to bear the costs associated with their monitoring devices and services (Bail Project, 2023). Should analogous financial responsibilities be instituted in Indonesia, it could disproportionately burden individuals from lower socioeconomic backgrounds, thereby exacerbating pre-existing social inequities. Policymakers ought to contemplate frameworks wherein the government subsidizes or entirely finances the expenses related to electronic monitoring for indigent offenders to guarantee equitable access to this alternative sentencing mechanism (Purnaningrum & Roisah, 2025).

The South Korean legal framework was one of the first to adopt electronic monitoring as a means of overseeing offenders. It is frequently used for individuals on probation, parole and pretrial release, and its use is governed by laws and regulations at every level. Research indicates that electronic monitoring in South Korea has resulted in lower reoffending rates, greater

adherence to legal standards and reduced costs for the criminal justice system (Han, 2017).

Indonesia has the opportunity to learn from South Korea's experience, particularly with regard to establishing a legal framework and incorporating technology. However, Indonesia could develop a more equitable system from the outset by embracing restorative justice principles and ensuring that electronic monitoring does not disproportionately affect marginalised communities. By examining the successes and failures of electronic monitoring in other countries, Indonesia can devise a strategy that aligns with its legal, cultural and economic contexts.

To ensure the effective implementation of the EM Law in Indonesia, several policy recommendations need to be considered, such as revising or adding legal articles by amending the latest Criminal Code and of course also followed by updating the formal provisions in its implementation such as the latest Criminal Procedure Code (KUHAP) which includes provisions regarding the implementation of EM. If EM is to be properly implemented, the updated provisions need to clearly define the eligibility criteria, monitoring conditions, and legal protections for monitored individuals, develop a robust technological infrastructure to support EM, ensure that the monitoring system is secure, reliable, and accessible across the region, launch a national campaign to inform the public and legal practitioners about the benefits and ethical considerations of EM, encourage greater acceptance and trust in the system, including

policies that prevent financial barriers to EM participation, such as government subsidies or tiered payment systems based on the economic status of the offender, and provide specialized training for law enforcement, judicial personnel, and correctional officers to ensure the proper management and enforcement of the EM program (Setyowati, Suwadi, & Muryanto, 2024).

The incorporation of electronic monitoring within Indonesia's legal framework offers a significant opportunity to advance the nation's methodologies in criminal justice (Galleguillos, Koetzle, & Mellow, 2024). By addressing the multifaceted legal, technological, and societal dimensions, electronic monitoring can function as a potent mechanism for alleviating prison overcrowding, facilitating rehabilitation, and augmenting the overall efficacy of the justice system. Nonetheless, meticulous planning and execution are imperative to guarantee that electronic monitoring is conducted within an ethical and legally robust paradigm that safeguards human rights and justice for all individuals.

In the context of South Korea, the primary challenge resides in fortifying experimental measures to mitigate burnout and the insufficiency of direct monitoring due to financial limitations. Concurrently, for Indonesia to realize effective implementation of electronic monitoring, it is essential to construct a robust legal foundation and to develop the requisite technological and institutional frameworks that ensure alignment with the overarching objectives

of its justice system (Utama & Asokawati, 2024). The perceptions of the public and the involvement of stakeholders are also pivotal in ascertaining the success of electronic monitoring initiatives (Budd & Mancini, 2017). Policymakers must cultivate confidence in the system by guaranteeing transparency, accountability, and equitable application of monitoring protocols (Richter, Ryser, & Hostettler, 2024; Saputra, Setiodjati, & Barkhuizen, 2023; Suhartono, Rahmadiyah, & Sarayar, 2021). Collaborative efforts among law enforcement agencies, judicial entities, and correctional institutions are essential in formulating policies that are grounded in empirical evidence and can adapt to the continuously evolving challenges faced by contemporary corrections. Furthermore, rehabilitative initiatives such as vocational training, mental health assistance, and community engagement programs should be synergistically integrated with electronic monitoring to enhance its efficacy as a mechanism for reducing recidivism.

D. CONCLUSION

The integration of electronic monitoring (EM) within Indonesia's juridical system signifies a pivotal opportunity to enhance the nation's approach to criminal justice and community-based corrections. In light of its capacity to mitigate prison overcrowding, improve offender oversight, and promote social rehabilitation, EM has the potential to serve as a viable alternative to conventional incarceration practices. By drawing lessons from the comparative

experiences of South Korea, Indonesia can develop an EM framework specifically adapted to its distinct national circumstances by reconciling technological advancements, legal accuracy, and the objectives of social reintegration. A critical takeaway for Indonesia is the imperative of establishing a similarly resilient infrastructure that accommodates the nation's geographic and logistical particularities. The establishment of national and regional EM monitoring centers is essential, necessitating adequate technical expertise and personnel skilled in data analytics, risk assessment, and field intervention methodologies. Without such preparedness, the effectiveness of EM will be limited, particularly in rural and remote areas that encounter challenges related to network connectivity and administrative coordination.

In conclusion, the comparative examination between South Korea and Indonesia affirms that the effective implementation of EM is dependent upon three fundamental pillars: legal precision, technological readiness, and rehabilitative integration. The South Korean framework exemplifies how comprehensive legislation, a centralized monitoring system, and strong institutional capacity can transform EM from a mere surveillance tool into an instrument of justice and societal reintegration. It is plausible for Indonesia to embrace EM, notwithstanding the geographical limitations characterized by its vast territory and relatively homogeneous society in contrast to South Korea; if principles of unity, efficiency, and inter-agency collaboration are

upheld in the implementation of EM, it can attain operational efficacy. For example, the United States, a nation with a high population density that has effectively instituted EM practices, reported a decrease in recidivism rates to 30% in comparison to traditional manual supervision executed by oversight agencies. For Indonesia, the adoption of EM necessitates not only technological adjustment but also a fundamental reorientation in the philosophy of punishment, transitioning from retribution to rehabilitation within a community-centric correctional framework. This goal can be achieved through what is referred to as a bridging approach, which aims to align international best practices with the indigenous context, cultural values, and legal traditions of Indonesia.

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