HERMENEUTICS p-ISSN 2337-6368 | e-ISSN 2615-4439
VOL.9, NO 2. , AGUSTUS 2025 http://jurnal.ugj.ac.id/index.php/HERMENEUTIKA

THE EFFECTIVENESS OF ANTI-CORRUPTION POLICIES IN THE DIGITAL AGE: A LITERATURE REVIEW ON THE USE OF TECHNOLOGY IN THE ERADICATION OF CORRUPTION

Rifdah Rahmafillah[1], Ririn Yuliandari Aida Putri[2], Rika Sartika[3]

[1]Universitas Pendidikan Indonesia/Faculty of Engineering and Industrial Education/Building Engineering Education/ Jalan Dr. Setiabudhi No. 229, Bandung, West Java 40154.

DOI: https://doi.org/10.33603/hermeneutika.v9i2.10043

Received: 14 May 2025; Revised: August 10, 2025; Published: August 11 2025

Abstract: *In Indonesia, corruption remains an important issue, which is reflected in the country's loss due to a 38 Corruption Perception Index (CPI) 2023 and 1.25 corruption incidents (2019-2023) of RP27 trillion rings. While traditional approaches are considered less effective, the digital age offers possibilities through technologies such as e-government, blockchain, and artificial intelligence (AI). The purpose of this study is to analyze the effectiveness of digital devices in anti-corruption guidelines and to identify the factors that support and hinder their implementation. Normative legal research methods have been employed in literature studies that analyze primary sources (legal documents and court decisions) and secondary sources (global case studies), and conduct comparative and historical analyses. The results of the study show that digital technology increases the obligation of transparency and accountability. E-Pro-Pro Cuceed reduced corruption in procurement supply by 0%. AI in Surveillance Information Systems (SIMPONI) reduced corruption cases by 28% (2020-2023), and blockchain was also demonstrated. However, its effectiveness is hampered by gaps in digital infrastructure, low literacy in equipment technology, and bureaucratic resistance. The study also corrects the over-optimism of isolated technology solutions by demonstrating the importance of integrating digital innovation with institutional reforms, such as the following. Political recommendations include increased training in digital capabilities, regulatory harmonization for technology adoption, and multilateral cooperation. The study confirms that a hybrid approach (a combination of technology and governance reform) is more effective in combating corruption than mere technical solutions. The theoretical implications modify the leading day theory by incorporating the digital dimension as a crucial variable.*

Keywords: Anti-Corruption Policy, Digital Technology, Transparency, Institutional Reform, Infrastructure Gap.

I. INTRODUCTION

Corruption remains a global challenge, undermining governance, economic growth, and social justice, especially in Indonesia. According to the 2023 Corruption Perception Index (CPI), Indonesia scored 38 out of 100, ranking 110th among 180 countries, reflecting stagnant progress in anti-corruption efforts (Transparency International, 2023). Data from the Corruption Eradication Commission (KPK) revealed 1,245 corruption cases between 2019 and

2023, resulting in state losses of IDR 27.4 trillion, underscoring the ineffectiveness of conventional approaches (KPK, 2023). The digital era presents opportunities through technologies such as e-government, blockchain, and online reporting to increase transparency. However, Indonesia faces structural obstacles, including regulatory ambiguity, infrastructure gaps, and bureaucratic resistance (Heeks, 2017). This study aims to analyze the effectiveness of digital instruments in reducing corruption, based on empirical evidence, and to identify the driving and inhibiting factors. The principal-agent theory (Klitgaard, 1988) posits that corruption originates from the asymmetry of information between the holder of power (the agent) and the public (the principal). Digital technology can reduce this asymmetry by encouraging transparency. For example, e-government enables the public to access budget data in real-time, thereby reducing the potential for manipulation (Bhatnagar, 2015). In Indonesia, the implementation of e-procurement limits collusion in public procurement by 23% (Kominfo, 2022), although its efficacy depends on infrastructure readiness and digital literacy (Azmi & Nugroho, 2023).

Previous studies have shown that blockchain technology has potential in creating an immutable audit trail, as evidenced by its applications in Georgia and Sweden to prevent document fraud (Yermack, 2017). However, the adoption of blockchain in Indonesia in procurement is hampered by regulatory gaps and technical limitations (Baza & Agil, 2023). Online platforms like Lapor! and Whistleblower KPK have increased public engagement but struggled with data validation and whistleblower protection (Simarmata, 2017), underscoring the need for comprehensive reforms that extend beyond technological solutions.

The urgency and scope of the complexity of corruption in the digital age require immediate analysis. While technology offers tools for accountability, corrupt actors exploit digital loopholes, such as electronic money laundering and crypto-related crimes (PPATK, 2022). The case of COVID-19 assistance fraud worth IDR 5.9 trillion involving digital data manipulation (KPK, 2021), illustrates the risk of dual use. Social media, while enabling crowdsourcing surveillance, also spreads misinformation that undermines investigations (Kadek Dini et al., 2023). The study focused on three digital instruments—e-government/e-procurement, online reporting systems, and blockchain/AI—excluding non-digital methods. The novelty lies in synthesizing Indonesia's limited empirical evidence with global best practices, such as comparing the KPK's AI-based transaction analysis (Wahono, 2023) with South Korea's predictive analytics (Kim & Kim, 2020).

II. RESEARCH METHODS

This normative juridical research methodology employs a library-based approach, analyzing legal principles, systematics, synchronization, comparative law, and legal history to assess judicial considerations in imposing minimum sentences under corruption laws. (Harefa, 2020). Primary sources include anti-corruption laws, court rulings, and legal doctrine. The normative framework assesses the consistency of applying the principle of ultimum remedium in judicial decisions, particularly in cases involving the minimum punishment prescribed by law. The report also examines the harmonization between the general criminal law (KUHP) and specific anti-corruption laws to prevent legal dissonance. A comparative analysis of the jurisprudence of the high courts and the Supreme Court identified the pattern of judicial decisions. Historical legal analysis examines the evolution of corruption punishment policies, evaluating their alignment with justice, legal certainty, and the goal of eradicating corruption. The study not only describes legal norms but critically evaluates their implementation, offering

insights into the intersection of digital innovation and legal frameworks in the fight against corruption.

III. RESEARCH RESULTS

The Effectiveness of Digital Technology in Anti-Corruption Policy: A literature review shows that the application of digital technology in anti-corruption policies is very practical in increasing transparency and accountability. By reducing direct interaction between related parties, the implementation of e-government systems such as "e-procurement" can reduce corrupt practices in the procurement of goods and services by up to 40% (OECD, 2020; Kim & Kim, 2021). In addition, it is proven that "blockchain" technology used to monitor public funds can prevent budget errors in the government sector, as seen in South Korea and Estonia (Lee et al., 2022)—The Role of Artificial Intelligence (AI) and Big Data. Predictive analytics, based on big data and AI, have successfully identified patterns of financial fraud that are not detected by conventional methods. Using artificial intelligence, the Supervisory Information System (SIMPONI) in Indonesia reduced corruption findings by 28% from 2020 to 2023. A previous study by Sutarto et al. (2019), which emphasized that manual audits are challenging to find systematic corruption, complements these findings.

Technology Implementation Challenges Although the implementation of anti-corruption technology is successful, there are challenges such as the digital divide (also known as the digital divide) and bureaucratic resistance. A study conducted by Transparency International (2022) found that uneven digital infrastructure caused 65% of developing countries, including Indonesia, to experience delays in implementation. This contradicts previous findings by the World Bank in 2018 that showed greater confidence in the adoption of technology without considering the infrastructure aspect.

Conclusions from Previous Studies: These findings support the idea that digital technologies can increase the effectiveness of anti-corruption policies, particularly in terms of transparency (OECD, 2020). However, these findings contradict previous hypotheses that often overlook non-technical elements, such as HR capabilities and organizational culture. One example is blockchain. Although it is considered an ideal solution, its implementation in Indonesia has been hindered by the lack of digital literacy among the apparatus (KPK, 2023).

The weaknesses and suggestions of this study indicate that digital anti-corruption efforts are only successful in conjunction with institutional reforms. This contrasts with previous research that focused on separate technologies. For example, electronic reporting, or e-reporting, fails to reduce corruption in the Philippines because it is not accompanied by vigorous law enforcement (Garcia, 2021). Therefore, the following should be included in the policy recommendations: 1. Human resource capacity building through specialized technology training; 2. Strengthening the legal framework to ensure data security and algorithm accountability; and 3. Multilateral cooperation to combat cross-jurisdictional corruption.

Practical and Theoretical Implications: These findings offer a new perspective on the need for a hybrid approach that combines technology and governance reform. While previous research by Bahar et al. (2020) emphasized technological innovation, this study instead confirms that the success of digital anti-corruption depends on alignment between policies, infrastructure, and ethical culture. Implicitly, the theory of corruption eradication needs to be updated by including the digital dimension as a critical variable.

IV. CONCLUSION

This study demonstrates that digital technology has significant potential to enhance the effectiveness of anti-corruption policies in Indonesia. The implementation of e-government, such as the electronic procurement system, has successfully reduced corrupt practices in the procurement of goods and services by up to 40% through real-time data transparency. Additionally, the use of artificial intelligence (AI) in the Supervisory Information System (SIMPONI) resulted in a 28% reduction in corruption cases from 2020 to 2023. Big data analysis and blockchain technology have been demonstrated to prevent budget irregularities and identify patterns of fraud that conventional methods cannot detect. However, this success depends on ready digital infrastructure, the technological literacy of the apparatus, and strong support from the government.

These results change previous overly optimistic beliefs about discrete technologies. They point out that non-technical things, such as bureaucratic bottlenecks and digital divides, are the main obstacles. For example, although online reporting platforms like Lapor! Encourage more people to report, whistleblower protection, and data validation are not available. Additionally, the study demonstrates that hybrid methods, which combine digital innovation with institutional reform, are more effective than standalone technology options. For example, South Korea has successfully utilized predictive analysis of corruption due to its strong legal framework, whereas the Philippines has failed to implement e-reporting.

This research introduces the digital dimension as a crucial factor in combating corruption and revises the theory of the principal-agent (Klitgaard, 1988). In practical terms, the policy proposals include: (1) digital literacy training for officials and the public, (2) regulatory harmonization to embrace innovations such as blockchain and AI, and (3) multilateral cooperation to combat cross-jurisdictional corruption. The study was limited to three digital instruments and relied on secondary data. Follow-up research should test this hybrid model with a mixed approach in underdeveloped areas and assess the long-term effects. Therefore, to achieve more accountable governance in the digital age, an integrated approach that combines anti-corruption culture, inclusive policies, and technology is necessary.

REFERENCE

Azmi, I. F., & Nugroho, A. A. (2023). Anti-corruption system 4.0: Adoption of blockchain technology in the public sector. *Integrity: Journal of Anti-Corruption, 9*(1), 93–108. https://doi.org/10.32697/integritas.v9i1.985

Baza, M. R. M., & Agil, M. (2023). The important role of blockchain digital technology in efforts to reduce corruption cases of securities embezzlement. *Journal of Law and Socio-Politics, 1*(3), 43–54. https://doi.org/10.59581/jhsp-widyakarya.v1i1

Bhatnagar, S. (2015). E-government and anti-corruption: A case study of India. In L. Lawton & H. I. Sorby (Eds.), *Combating corruption and fraud in the public sector* (pp. 137–155). Edward Elgar Publishing.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008

Heeks, R. (2017). ICTs and anti-corruption: Theory and overview. *Development Informatics Working Paper Series, 68*.

Kadek Dini, A. W., & Maharani, I. G. A. S. R. (2023). Social media: Presentation of digital evidence of corruption in criminal justice in Indonesia. *Journal of Kertha Village, 11*(12), 3798–3810.

Kim, S., & Kim, H. J. (2020). Predictive analytics for anti-corruption in public procurement: A case study of South Korea. *Government*
Information Quarterly, 37(4), 101487. https://doi.org/10.1016/j.giq.2020.101487
Klitgaard, R. (1988). *Controlling corruption*. University of California Press.
Corruption Eradication Commission (KPK). (2021). *Investigation report on the corruption case of COVID-19 social assistance funds*. https://kpk.go.id
Corruption Eradication Commission (KPK). (2023). *Corruption case prosecution statistics 2019–2023*. https://kpk.go.id
Harefa, A. (2020). Legal Analysis of the Imposition of Criminal Sentences Under the Minimum Threat to Perpetrators of Corruption Crimes. *Journal Education and Development*, *8*(1), 434–439.