



Corruption Risks in Smart City Initiatives in Indonesia: Analysis of Legal Framework Adequacy

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Article Process Abstract

Submitted:
2025-03-28

Reviewed:
2025-05-15

Accepted:
2025-09-25

Published:
2025-09-30

As sustainability needs continue to gather attention worldwide, the development of smart cities raises novel issues that need to be anticipated, particularly in the line of anti-corruption. This paper explores this novel topic, particularly regarding the emerging risks associated corruption risks around smart city initiatives in Indonesia, by identifying the legal implications of smart city initiatives. It focuses on the inadequacies within the current legal framework, employing the normative legal research method and statutory approach to conduct an analysis of the relevant legal frameworks. Smart city projects promise innovation and better public services. The associated risks identified by the analysis include compromised procurement processes, substandard technologies, and breaches of relevant rights, which instead erode sustainability aspects of Indonesian society, ultimately defeating the purposes of smart city-related initiatives. The anti-corruption legal framework in Indonesia is also found in the analysis to be inadequate in addressing this issue. Therefore, this study proposes a model of legal reforms consisting of key normative aspects that can be considered for future legal development, to enhance oversight and transparency in smart city initiatives, while also ensuring quality results and protecting the public interest.

Keywords: Anti-Corruption Framework, Corruption Impacts, Smart City Initiatives

I. Introduction

Corruption has been consistently considered as one of the biggest challenges in Indonesia's growth and development.¹ It can even be said that corruption has become a part of Indonesia's government and societal culture, due to its prevalence.² While it's true that the perception of despise against corruption has always remained strong within the Indonesian society,³ many

¹ Nandha Risky Putra and Rosa Linda, "Corruption in Indonesia: A Challenge for Social Changes," *Integritas: Jurnal Antikorupsi* 8, no. 1 (June 2022): 13-24, <https://doi.org/10.32697/integritas.v8i1.898>.

² Aristri Rahma Magistra, "Pengaruh Budaya Korupsi Dalam Pengikisan Peran Kehidupan Berkedaulatan Rakyat," *Sovereignty* 2, no. 3 (September 2023): 253-61.

³ Negative perceptions against corruption among Indonesians can also contribute to other societal problems like hatred or misinformation in social media, ultimately highlighting how wide the impacts of corruption are. See Dede Al

forms of it continue to happen and has caused significant damage to the state finance,⁴ robbing the opportunity of taxpayers to enjoy significant growth and development in their economy and infrastructures.⁵ Data from Transparency.org even shows that Indonesia is still among some of the most corrupt countries in the world, ranked at number 115 in Corruption Perception Index (CPI), far behind its neighbors like Singapore and Malaysia, who are ranked at number 5 and 57 respectively.⁶ Additionally, data from Statistics Indonesia suggests a trend toward a slight deterioration in both the perception and experience of corruption over recent years, as shown in the table below.

Table 1: Anti-Corruption Behaviour Index (ACBI) by Dimension, 2022-2024

Year	Perception Index	Experience Index	ACBI (Anti-Corruption Behavior Index)
2022	3.80	3.99	3.93
2023	3.82	3.96	3.92
2024	3.76	3.89	3.85

Source: Statistics Indonesia.⁷

This trend suggests a slight worsening in both the perceived and experienced levels of corruption within society. While the changes may appear incremental, they point to an overall decline in anti-corruption behaviors and a growing sense of corruption as a concern among the population. The data indicates that despite efforts to combat corruption, challenges persist, and both public perception and personal encounters with corruption have gradually increased. This can eventually lead to far more dangerous societal symptoms like rationalization and socialization, where corruption can even be gradually normalized.⁸

Corruption can essentially happen in any circumstances, whenever there is a chance to be exploited and there is significant amount of money involved.⁹ As Indonesia continues to further their sustainability agenda which is projected to continue until 2030,¹⁰ some of the initiatives to support sustainable development in Indonesia according to the Sustainable Development Goals (SDGs) have become a potential avenue for corruptions. The promise of a more sustainable Indonesia combined with the rising trend of sustainability all over the world, has made

Mustaqim et al., "Peran Media Sosial Sebagai Sarana Partisipasi Warganet Dalam Mewujudkan Keadilan Dan Akuntabilitas Penegakan Hukum Di Indonesia," *Journal of Multidisciplinary Research and Development* 1, no. 1 (2024): 53-66, <https://doi.org/10.56916/jmrd.v1i1.655>.

⁴ Andre Yosua M and Tegar Mulia, "Juridical Analysis Of Proof Elements Harm State Finance In Criminal Actions Corruption In Indonesia," *International Journal of Sociology and Law* 1, no. 3 (June 2024): 1-19, <https://doi.org/10.62951/ijsl.v1i3.95>.

⁵ Herry M Polontoh and Lestari Wulandari S, "Tax Corruption: Legal Loopholes and Criminal Practices by High-Ranking Officials," *SASI* 30, no. 3 (September 2024): 310-25, <https://doi.org/10.47268/sasi.v30i3.2265>.

⁶ Transparency International, "2023 Corruption Perceptions Index," Transparency International: The Global Coalition Against Corruption, January 2024, <https://www.transparency.org/en/cpi/2023>.

⁷ Badan Pusat Statistik, "Anti-Corruption Behaviour Index (ACBI) by Dimension - Statistical Data - BPS-Statistics Indonesia," BPS-Statistics Indonesia, July 2024, <https://www.bps.go.id/en/statistics-table/2/NjM1IzI=/anti-corruption-behaviour-index--acbi--by-dimension.html>.

⁸ Hendi Yogi Prabowo and Kathie Cooper, "Re-Understanding Corruption in the Indonesian Public Sector through Three Behavioral Lenses," *Journal of Financial Crime* 23, no. 4 (January 2016): 1028-62, <https://doi.org/10.1108/JFC-08-2015-0039>.

⁹ Arie Kartika et al., "Law Enforcement in the Recovery of State Funds from Corruption Crimes," *LAW REFORM* 20, no. 2 (September 2024): 211-29.

¹⁰ Hartanto Hartanto, "The Role of Indonesia in Leading Efforts to Mitigate Climate Change in ASEAN in 2023," *JDKP Jurnal Desentralisasi dan Kebijakan Publik* 5, no. 1 (April 25, 2024): 62-69, <https://doi.org/10.30656/jdkp.v5i1.8456>.

sustainability an attractive investment niche that continues to receive financial support.¹¹ Smart city is among one of the concepts of sustainability that has attracted the interest of Indonesian government and many investors,¹² while also increasing the risks of potential corruption. Governments typically support this concept by providing initiatives to further the sustainability agenda in the local scale, particularly in Indonesia, where decentralization plays a key role in government management in the country's archipelagic territories.¹³

As initiatives associated with smart city projects continue to emerge, the risk of corruption also rises. The novel nature of smart city can make it vulnerable to various forms of mismanagement, lack of accountability, and exploitation. The rapid development of smart city initiatives, driven by technology and large-scale infrastructure projects, often involves complex procurement processes, ambiguous regulations, and multi-stakeholder collaborations, which can create opportunities for corrupt practices. In the context of Indonesia, where governance and regulatory enforcement have historically faced challenges, these risks are particularly pronounced. As smart cities aim to integrate advanced technologies for urban development, there is an urgent need for transparent, effective governance frameworks to mitigate the potential for corruption and ensure that these initiatives genuinely benefit the public. Analyzing the risks associated with smart city initiatives is a key issue in ensuring the success of Indonesian SDGs and the country's overall national interests, particularly within the context of development. Therefore, analyzing the relevant legal framework to tackle this becomes an issue of high importance, especially when corruption risks emerge in novel concepts like smart city.

Corruption has been extensively discussed throughout the development of literature as a one of the biggest factors that contribute to many socio-economic problems, as highlighted by a bibliometric analysis done by Wong.¹⁴ Despite the bibliometric analysis presenting corruption as a significant concern in many literature, descriptive analysis and explorations of potential novel avenues of corruption, are not shown as topics that have received enough attention. Corruption itself is often viewed as a crime that is damaging to state finance, as noted by a study conducted by Rachman et al., which also acknowledges that corruption can be difficult to be extensively explained in actuality, due to the unique characteristics of each case.¹⁵ The study tries to expand the scope of state financial loss by connecting it to the concept of state economy, but ultimately cannot establish a clearer understanding on how the doctrine of state financial losses can be utilized to account for damages non-financial damages. The study also does not explore the broader implications of corruption, such as how it could negatively affect sustainability, despite the doctrine of state financial loss itself often being used to materialize impacts that may not always appear in figures. This is done by a study carried out by Troisi et al., which crucially notes

¹¹ Caetano C. R. Penna, Johan Schot, and W. Edward Steinmueller, "The Promise Of Transformative Investment: Mapping The Field Of Sustainability Investing," Deep Transitions Working Paper Series (Sussex, November 2021), <https://deeptransitions.net/publication/the-promise-of-transformative-investment-mapping-the-field-of-sustainability-investing/>.

¹² Nabil Miftah Irfandha, "Construction of Smart City Development Index in Indonesia," in *Proceedings of The International Conference on Data Science and Official Statistics*, 2021, 259-77, <https://doi.org/10.34123/icdsos.v2021i1.233>.

¹³ Wendy Junaidi, "Analysis of Smart City Initiatives to Support Environmental Sustainability in Asia," *Jurnal Keuangan Dan Bisnis* 22, no. 2 (October 2024): 211-25, <https://doi.org/10.32524/jkb.v22i2.1248>.

¹⁴ Chi Swian Wong, "The Past, the Present, and the Future: A Bibliometric Analysis of Failed/Fragile/Collapsed State Research During 1990-2020," *Frontiers in Research Metrics and Analytics* 7 (2022): 1-19, <https://doi.org/10.3389/frma.2022.720882>.

¹⁵ Taufik Rachman et al., "Defining State Economic Loss Due to Corruption within the Indonesian Law: Hurdle and Solution," *World Journal of Entrepreneurship, Management and Sustainable Development* 19, no. 1-2 (2023): 53-67, <https://doi.org/10.47556/J.WJEMSD.19.1-2.2023.5>.

that corruption often undermines innovation, which is an essential part of sustainability.¹⁶ This connection is interestingly also observed in a study that focuses more on environmental sustainability, conducted by Tawiah, Zakari, and Alvarado.¹⁷ This study highlights how corruption is often associated with low efficiency of natural resource utilizations, which leads to stunted green growth.

Unfortunately, literature analysis shows that despite the development of analyses regarding corruption over the years, including its impact on sustainability, there has not been any exploration on how sustainability initiatives can open ways for corruption, particularly in the purely legal standpoint. In particular, the concept of smart city itself is not often connected to the issue of corruption, although the support given by government through many initiatives, can ultimately be exploited, as what has already happened in the city of Bandung, Indonesia.¹⁸ Therefore, this study aims to address the gap that exists within the literature, by offering insights into the novel angle of smart city initiatives, as potential platform that can be abused by corrupt practices. It can contribute to the growing literature by piloting the initial exploration into concrete forms of sustainability initiatives, while also taking into account the negative interplay between corruption and corruption. By analyzing the relevant legal framework, this paper addresses the adequacy of the normative structure within the Indonesian legal system, in prosecuting such criminal act, which can serve as practical insights for the Indonesian government to consider in future legislation processes.

II. Research Problems

This study addresses three critical research problems. First, it investigates the associated risks of corruption that may arise within the implementation of smart city initiatives, particularly in the context of increased technological integration and public-private partnerships. Second, it evaluates the adequacy of the existing legal framework in effectively preventing, detecting, and prosecuting corruption in the rapidly evolving digital governance landscape. Third, it explores the formulation of a proposed model for legal reforms aimed at strengthening anti-corruption mechanisms and ensuring transparency, accountability, and good governance in smart city development.

III. Research Methods

This study utilizes the normative legal research method, specifically employing the statutory approach, to analyze the corruption laws in Indonesia, particularly in the context of smart city initiatives. The normative legal research method focuses on norms within the relevant legal framework,¹⁹ typically with an emphasis on understanding how existing laws, regulations, and statutory provisions work in the context of a specific legal topic.²⁰ According to Soerjono

¹⁶ Roberta Troisi et al., "The Effects of Corruption and Innovation on Sustainability: A Firm-Level Analysis," *Sustainability*, 2023, <https://doi.org/10.3390/su15031848>.

¹⁷ Vincent Tawiah, Abdulrasheed Zakari, and Rafael Alvarado, "Effect of Corruption on Green Growth," *Environment, Development and Sustainability* 26, no. 4 (2024): 10429–59, <https://doi.org/10.1007/s10668-023-03152-w>.

¹⁸ Machradin Wahyudi Ritonga, "Catatan Buruk Birokrasi Dalam Pusaran Korupsi Bandung Smart City," *Kompas.id*, October 2024, <https://www.kompas.id/artikel/catatan-buruk-birokrasi-dalam-pusaran-korupsi-bandung-smart-city>.

¹⁹ Hari Sutra Disemadi, "Lenses of Legal Research: A Descriptive Essay on Legal Research Methodologies," *Journal of Judicial Review* 24, no. 2 (2022): 289–304, <https://doi.org/10.37253/jjr.v24i2.7280>.

²⁰ David Tan, "Metode Penelitian Hukum: Mengupas Dan Mengulas Metodologi Dalam Menyelenggarakan Penelitian Hukum," *NUSANTARA: Jurnal Ilmu Pengetahuan Sosial* 8, no. 5 (2021): 2463–78, <https://jurnal.um-tapsel.ac.id/index.php/nusantara/article/view/5601>.

Soekanto, this involves the analytical and prescriptive application of norms taken from legal frameworks, mainly as secondary data in the form of primary law sources, to the relevant aspects of reality.²¹ This method perspective will then be utilized as a lens into how the relevant law sources address the legal issue at hand.²² The statutory approach is also utilized in this study, as it is defined by Soerjono Soekanto as an approach that enables the access to bibliographic materials or secondary data as the fundamental basis for research, conducted by reviewing relevant regulations and literature pertaining to the issues under investigation.²³ This combination of method and approach is essential for evaluating how effectively the legal norms and regulations are applied to prevent corruption in the implementation of large-scale urban development projects that involve multiple stakeholders, advanced technologies, and significant public resources. The secondary data used in this research primarily consists of these legal texts, which are critically analyzed to assess their practical application and effectiveness. Through this approach, the study seeks to determine whether Indonesia's legal framework provides sufficient safeguards to prevent corruption and, if necessary, proposes recommendations for legal reforms or improvements to enhance transparency, accountability, and governance in the management of smart city initiatives. Secondary data utilized in this research are Law No. 31 of 1999 on Eradication of Corruption and Law No. 20 of 2001 on Amendment to Law No. 31 of 1999 on the Eradication of the Crime of Corruption.

IV. Result and Discussion

1. Associated Risks of Corruption in Smart City Initiatives

In the noble and arduous effort in tackling corruption, lies a complicated web of conceptualizations, particularly when the context of sustainability is taken into account. While Sustainability is commonly associated with environmental protection, the concept itself is based on general understanding around the core ideas of justice.²⁴ Therefore, the goals of sustainability, as what are exhaustively defined in Sustainable Development Goals (SDGs), can cover many aspects beyond environmental issues, including socio-economic ones. The word development itself already entails a much more generalized approach to how sustainability is defined. It encompasses the need to create a sense of justice in many facets of society, be it from the perspective of socio-economy, or even cultural.²⁵ This is then further accentuated with the concept of generational justice, where the current existing people living in the society try to leave a world that is habitable and supportive of growth for the next generation to thrive in.²⁶

To mitigate these risks, it is crucial to strengthen the legal framework and enhance oversight mechanisms. This includes implementing more rigorous procurement regulations, ensuring comprehensive audits, and fostering greater transparency in public-private partnerships. By addressing these specific challenges, Indonesia can better safeguard its smart

²¹ Wiwik Sri Widiarty, *Buku Ajar Metode Penelitian Hukum*, 1st ed. (Yogyakarta: Publika Global Media, 2024), p. 83.

²² Tan, "Metode Penelitian Hukum: Mengupas Dan Mengulas Metodologi Dalam Menyelenggarakan Penelitian Hukum."

²³ Rangga Suganda, "Metode Pendekatan Yuridis Dalam Memahami Sistem Penyelesaian Sengketa Ekonomi Syariah," *Jurnal Ilmiah Ekonomi Islam* 8, no. 3 (October 31, 2022): 2859–66, <https://doi.org/10.29040/jiei.v8i3.6485>.

²⁴ Rosalba Thomas, "What Is Missing to Understand Sustainability?," *Journal of Sustainability Perspectives* 3, no. 1 (2023): 34–62, <https://doi.org/10.14710/jsp.2023.15365>.

²⁵ Justice Mensah, "Sustainable Development: Meaning, History, Principles, Pillars, and Implications for Human Action: Literature Review," *Cogent Social Sciences* 5, no. 1 (2019): 1–21, <https://doi.org/10.1080/23311886.2019.1653531>.

²⁶ William Sjøstedt, "Should Democracy Become Intergenerational? On the Inclusion of Youth and Future Generations in the Anthropocene," Ph.d.-Serien for Det Humanistiske Og Samfundsvidenskabelige Fakultet, Aalborg Universitet (Aalborg Universitetsforlag, 2023), <https://doi.org/10.54337/aau561777692>.

city initiatives against corruption, thereby promoting a more just and sustainable urban development for current and future generations. Therefore, it's important to comprehensively identify the risks of corruption in smart city initiatives, to then be analyzed through the lens of the relevant legal framework, particularly regarding anti-corruption.

For Indonesia, the implementation of smart city initiatives serves as a way to enhance sustainability in a country whose territories are mostly divided by the sea. Typically, this requires a certain of decentralization, and when combined with the novel aspects of smart city initiatives, introduces a new layer of complexity to the corruption landscape.²⁷ These initiatives involve the deployment of advanced technologies and large-scale infrastructure, often require substantial investments and public-private partnerships. This creates numerous opportunities for corruption, as seen in various cases involving bribery in procurement processes, particularly the one that happened in Bandung.²⁸ Such instances highlight the vulnerabilities in the procurement system, where high-value contracts and complex technical specifications can be manipulated to favor certain parties, undermining the principles of transparency and fairness.

The Bandung smart city corruption case also damages the quality of procurement results, as the bribery can cause government officials to turn a blind eye on certain standards.²⁹ Insufficient transparency and inadequate monitoring can allow corrupt practices to flourish within smart city initiatives. The erosion of regulatory standards due to bribery and the lack of stringent audits enable the mismanagement of funds and the approval of substandard work. These gaps in the legal framework can not only facilitate corruption but also impede the successful implementation of smart city projects, ultimately compromising the intended benefits of technological advancement and urban development. Therefore, it becomes imperative to scrutinize and reform the existing regulatory provisions to ensure they are robust enough to deter and address such corruption comprehensively.

As highlighted previously, this has been suspected by Indonesia's Corruption Eradication Commission in the Bandung smart city case.³⁰ The legal impacts of this can extend beyond anti-corruption frameworks, particularly when the utilization of novel technologies is taken into context. For example, the use of digital technologies overall typically involves the risk to data privacy and protection, which has its own legal framework. However, this also depends on whether or not the standards of compliance for the relevant framework for data are adequate in the first place. The interplay between these two topics are very much complex, as they affect each other negatively and positively.³¹ Moreover, the lack of stringent oversight and accountability

²⁷ Delly Maulana and Sukendar Sukendar, "Decentralization System and Application of Smart City Concept in Increasing Level of Competitiveness and Ease of Doing Business in Indonesian Urban Area," in *Proceedings of The 2nd International Conference On Advance And Scientific Innovation, ICASI 2019, 18 July, Banda Aceh, Indonesia* (EAI, 2019), 1-6, <https://doi.org/10.4108/eai.18-7-2019.2288486>.

²⁸ Fachrur Rozie, "KPK Yakin Kualitas CCTV Dan Internet Bandung Smart City Buruk Usai Terjadi Suap," *Liputan6*, April 2023, <https://www.liputan6.com/news/read/5262855/kpk-yakin-kualitas-cctv-dan-internet-bandung-smart-city-buruk-usai-terjadi-suap>.

²⁹ Candra Yuri Nuralam, "Kualitas Pengadaan CCTV Dan Jaringan Internet Smart City Bandung Merosot Usai Kasus Suap," *medcom.id*, April 2023, <https://www.medcom.id/nasional/hukum/nbw0jj6k-kualitas-pengadaan-cctv-dan-jaringan-internet-smart-city-bandung-merosot-usai-kasus-suap>.

³⁰ Rozie, "KPK Yakin Kualitas CCTV Dan Internet Bandung Smart City Buruk Usai Terjadi Suap."

³¹ Data protection, interestingly, can be considered an obstacle to anti-bribery laws, particularly when there are effective provisions that restricts data-sharing and data collection. See International Monetary Fund. Fiscal Affairs Dept., International Monetary Fund. Legal Dept., and Policy International Monetary Fund. Strategy & Review Department, "Transnational Aspects of Corruption," *Policy Papers* 2023, no. 015 (2023), <https://doi.org/10.5089/9798400238017.007.A011>.

can lead to the misuse of these technologies, such as surveillance systems being used to infringe on citizens' privacy rather than enhance public safety.

Additionally, the unethical use of smart city technologies due to corruption can significantly harm public trust and welfare. For instance, data collected through smart city initiatives, which should be used to improve urban services and quality of life, can be misappropriated or sold to private entities for profit.³² This not only violates data privacy but also undermines the public's confidence in the government's ability to manage and protect their information. Most importantly this can drive people away from the newly built smart city infrastructures, as the government cannot guarantee the compliance with relevant non-corruption regulations that are relevant.³³ Addressing these issues requires a robust legal framework that enforces strict compliance with standards, ensures transparency in the use of technologies, and holds corrupt officials accountable for their actions. By doing so, Indonesia can safeguard the integrity of its smart city initiatives and ensure they serve the public interest effectively.

Furthermore, it's important to note that some of the associated risks that have been identified are very specific and heavily focused on technical aspects of smart city initiatives. Therefore, it's imperative to recognize the limitation that the anti-corruption legal framework has in addressing these risks. However, as sustainability is continuously being touted as the future of humanity, there still needs to be an added weight regarding the importance of protecting sustainability-related initiatives, such as smart city. The case of smart city corruption in the city of Bandung showed that a sustainability-related initiative can indeed become an avenue for corruption. To justify the expansion of the anti-corruption coverage to the rather technical aspects of sustainability, the protection of public interest needs to be the focal point. Through this perspective, normative adequacy of the anti-corruption framework can be assessed without oversimplifying it to the lack of explicit provisions regarding those technical aspects, which can be considered unreasonable.

2. Adequacy of the Existing Legal Framework on Corruption

A deep dive into the existing normative structures that address corruption within Indonesia's legal framework is needed, to analyze how the highlighted risks are seen in the Indonesian legal system. This involves assessing how the current laws measure up against the identified risks in smart city projects. The scrutiny examines whether the existing corruption control mechanisms are sufficient to address the specific challenges posed by smart cities, revolving mainly around transparency, good governance, and quality of smart city procurements. It also looks at enforcement mechanisms, gaps in the current legal provisions, and how well these laws integrate with the evolving nature of smart city initiatives. The purpose is to critically evaluate the adequacy of the legal framework in mitigating corruption risks and ensuring ethical governance.

Indonesia is mainly governed by its anti-corruption laws, centered around Law No. 31 of 1999 on Eradication of Corruption (Anti-Corruption Law). This law has received a few amendments, mainly through Law No. 20 of 2001 on Amendment to Law No. 31/1999 on the

³² Brian F G Fabrègue and Andrea Bogoni, "Privacy and Security Concerns in the Smart City," *Smart Cities* 6, no. 1 (2023): 586–613, <https://doi.org/10.3390/smartcities6010027>.

³³ Eva Kassens-Noor and Arend Hintze, "Cities of the Future? The Potential Impact of Artificial Intelligence," *AI* 1, no. 2 (2020): 192–97, <https://doi.org/10.3390/ai1020012>.

Eradication of the Crime of Corruption (Amendments to the Anti-Corruption Law) which focuses directly on the government body that leads the fight against corruption in Indonesia.³⁴ This law has been the main foundation of Indonesia's effort to curb and punish the criminal act of corruption. However, as earlier part of this study has highlighted the continued rise of corruption-related index in Indonesia, the reassessment of this legal framework comes an inevitable quest in Indonesia's journey for a cleaner and more responsible governance. In the face of sustainability and its related initiatives, this is even more important as recent case of smart city initiative being muddied by corruption has sparked outrage among many Indonesians, increasing the urgency to reassess the anti-corruption framework.

Interestingly, Law No. 31 of 1999 on Anti-Corruption still utilizes parts of the Criminal Law Code to describe corruption in different forms, through Article 5 to 12, although the law has its own provisions in other forms of corruption with certain circumstances, as provisioned by Article 13 to 17. Some of these provisions received amendments through Amendments to the Anti-Corruption Law, ending the reliance on Criminal Law Code on Article 5 to 12. The framework, however, remains unchanged in its commitment on punishing the criminal act of corruption that happens while the country is facing severe crises, such as major natural disasters or nation-wide monetary crisis. This provision, in particular, needs to be highlighted as it crucially implies the importance of public interest, by elevating the context behind the criminal act of corruption with a more severe punishment.

While the law recognizes the potential for corruption to endanger human lives in physical infrastructure, as seen in Article 7(1) letter a of the Amendments to the Anti-Corruption Law, it fails to adequately address the equally critical risks posed by technological corruption in data-driven smart city initiatives. The existing legal framework demonstrates an awareness of how corrupt practices can compromise public safety in tangible, physical contexts, yet remains critically underdeveloped in addressing the more abstract yet equally perilous risks of technological malfeasance. In smart city environments, corruption can lead to systemic vulnerabilities that compromise data privacy, expose citizens to unprecedented surveillance risks, and potentially manipulate critical urban infrastructure through technological breaches. These risks are no less threatening to public welfare than physical infrastructure failures, yet they remain largely unaddressed by current anti-corruption statutes. The legal provision in Article 7(1) letter a, serves as a compelling precedent for how legislative frameworks can and should evolve to recognize the multifaceted nature of risks posed by corruption, extending beyond traditional physical manifestations to include the increasingly complex technological landscapes of modern urban governance.

Unfortunately, no other manifestation of public interest protection can be found in the Anti-Corruption legal framework. This oversight is particularly concerning in the context of smart city initiatives, where corruption can lead to significant collateral impacts. Without specific legal protections and stronger regulatory measures tailored to prevent these outcomes, the potential for corruption to derail the goals of smart city initiatives remains high. It can also extend to other legal aspects like data privacy and quality of procured infrastructures, which can all threaten the safety and other relevant rights of the general population.

³⁴ Fatkhurohman Fatkhurohman and Nalom Kurniawan, "Pergeseran Delik Korupsi Dalam Putusan Mahkamah Konstitusi Nomor 25/PUU-XIV/2016," *Jurnal Konstitusi* 14, no. 1 (July 2017): 1-21, <https://doi.org/10.31078/jk1411>.

3. Proposed Model of Legal Reforms

The identified associated risks of corruption, along with the discrepancy in the normative structure of Indonesian anti-corruption legal framework, has ultimately highlighted the dire need for change. This change needs to happen through legal reforms that can not only help manage the risk of corruption, but also help prosecute corruption more accordingly, particularly in smart city initiatives. Legal reform is often defined as the essence of law, aimed at improving, making it fairer, more beneficial, and providing legal certainty within the relevant legal system.³⁵ This goal is ultimately rooted in the core values of democracy, which prioritizes the public interest in the face of emerging legal challenges.³⁶

A model for legal development is proposed to address the existing gaps in the anti-corruption framework, particularly in the context of smart city initiatives. The model outlines critical legislative reforms and enhanced regulatory measures needed to strengthen oversight and mitigate the associated risks of corruption in smart city initiatives. Key elements include stricter procurement regulations, clearer transparency laws, and the establishment of more effective enforcement mechanisms. Most importantly, this study also promotes new provisions similar to the nature of Article 7(1) letter a of the Amendments to the Anti-Corruption Law, which recognizes the collateral impacts of corruption and punishes the parties responsible behind it accordingly. This approach is designed to ensure that the legal framework aligns with the unique challenges of smart city projects, fostering a governance structure that is more transparent, accountable, and resistant to corruption.

Table 2: Proposed normative aspects for legal reforms

Normative Aspect	Description	Objective
Stricter Procurement Regulations	Implement more rigorous standard and oversight in the procurement process to ensure that companies winning tenders deliver high quality products and services.	Reduce corruption risks by ensuring transparency and accountability in procurement process. Companies winning tenders provide high quality
Transparency Laws	Enhance public access to information regarding smart city initiatives, including the criteria for evaluation, decision making processes, and outcomes of tenders.	To promote accountability and allow public scrutiny, deterring corruption through increased transparency and public pressure.
Enhanced Enforcement Mechanisms	Mandating independent periodic assessment to ensure compliance with anti-corruption laws in initiatives, focusing on promoting long-term integrity and sustainability.	To maintain consistent oversight and uphold accountability in government-backed projects for sustainable development.
Legal Provisions for Collateral Impacts	Introducing legal provisions similar to Article 7(1) letter a of the Amendments to the Anti-Corruption Law to address the use of low-quality digital technologies and data management practices.	To deter the use of substandard digital technologies and data practices in government-backed projects.

³⁵ Agus Joko Lelono, Mohamad Tohari, and Hono Sejati, "The Urgency of Legal Reform for the Legality of Digital Currency in Indonesia," *UNES Law Review* 6, no. 4 (June 2024): 11400-407, <https://doi.org/10.31933/unesrev.v6i4.2156>.

³⁶ Chris Thornhill, *The Sociology of Law and the Global Transformation of Democracy, The Sociology of Law and the Global Transformation of Democracy*, 2018, <https://doi.org/10.1017/9781108186049>, p. 346.

This table outlines a proposed model of legal reform to address corruption risks in smart city initiatives. It includes stricter procurement regulations to ensure high quality vendors are selected, transparency laws to enhance public access to information regarding smart city projects, and enhanced enforcement mechanisms to empower oversight bodies. The fourth normative aspect addresses the need for legal provisions that specifically target the collateral impacts of corruption, particularly in digital technologies and data management within smart city initiatives. Such impacts include the use of low-quality digital technologies and poor data management practices, which could lead to compromised public safety, privacy breaches, and erosion of trust in public systems.

V. Conclusion

Analyses have identified the associated risks of corruption in smart city initiatives, along with the normative inadequacy within the anti-corruption legal framework, which ultimately raised the urgency for legal reforms. Answering this urgency, this study has also proposed a model of legal reform consisting of key normative aspects that can be enhanced and added into the current framework. This model can be considered in the future legal development of Indonesian legal system to tackle corruption while also ensuring that sustainable development through smart city initiatives can be effective and can benefit the general population. These insights can open ways into understanding the ethical implication of smart city initiatives, which can still be considered an understudied legal topic. Most importantly, the novel insights that this study offers serve as a reminder that corruption risk is something that must be systematically anticipated and addressed from the earliest stages of smart city planning and implementation. Limitation of this research comes from its purely normative exploration and findings, which can be further supported with qualitative arguments, particularly regarding the perception of people who are affected by the corruption in smart city initiatives.

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