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Elaborate the Superiority of Smart City in South Korea: A Study Comparison of Laws

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Abstract: *The advancement of technology has played a significant role in societal life, providing convenience across various aspects and creating practical solutions. One phenomenon emerging alongside this progress is the Internet of Things (IoT), a concept of continuous connectivity within networks. A massive implementation of IoT is seen in the concept of Smart City, which integrates this technology to efficiently enhance the quality of life for communities. This research aims to compare the legal regulations governing Smart Cities in South Korea and Indonesia. In Indonesia, there is currently no specific legal regulation for Smart Cities, making a comparison with South Korea particularly valuable. The research methodology employed is normative legal research, utilizing secondary data obtained through literature studies, focusing on legislative analysis and a comparative approach. The findings of this research provide an elaboration on the comparison of legal regulations for Smart Cities in Indonesia and South Korea. The research results are also accompanied by recommendations for the establishment of Smart City legal regulations that could be utilized at the national level.*

Keywords: *Smart City; Comparison of Law; South Korea; Omnibus Law*

Abstrak: Perkembangan teknologi telah mengambil peran penting dalam kehidupan masyarakat, memberikan kemudahan dalam berbagai aspek dan menciptakan solusi praktis. Salah satu fenomena yang muncul seiring perkembangan ini adalah *Internet of Things* (IoT), sebuah konsep konektivitas terus-menerus dalam jaringan. Salah satu bentuk implementasi massif dari IoT adalah konsep Smart City, yang mengintegrasikan teknologi ini untuk meningkatkan kualitas hidup masyarakat secara efisien. Penelitian ini bertujuan untuk membandingkan peraturan hukum yang mengatur Smart City di Korea Selatan dengan Indonesia. Di Indonesia, belum ada peraturan hukum yang secara khusus mengatur Smart City, sehingga perbandingan dengan Korea Selatan dapat memberikan pandangan yang berharga. Metode penelitian yang digunakan adalah penelitian hukum normatif dengan data

sekunder yang diperoleh melalui studi kepustakaan, dengan fokus pada analisis perundang-undangan dan pendekatan komparatif. Hasil penelitian ini merupakan penjabaran atas perbandingan aturan hukum Smart City di Indonesia dengan Korea Selatan. Hasil penelitian ini juga diikuti dengan sebuah rekomendasi terhadap penciptaan aturan hukum Smart City yang sekiranya dapat digunakan secara nasional.

Kata Kunci : Kota Pintar; Perbandingan Hukum; Korea Selatan; Omnibus Law

INTRODUCTION

The advancement of technology and the utilization of Big Data have penetrated various sectors, including education, healthcare[1], economy[2], and various other fields. This phenomenon initiated the emergence of the Internet of Things (IoT), which refers to integrating the Internet into physical objects[3]. IoT also reflects continuous and continuous networking[4]. A significant projection of IoT implementation is establishing Smart City[5], a concept that integrates IoT technology in urban areas[6]. The goal is to increase the efficiency of activities in the area in terms of time and place[7]. In addition, Smart City also aims to create a safe and controlled urban environment and provide easy access to services for its citizens[8]. In other words, Smart City reflects the concept of a sustainable city, which aims to support a better quality of life for people in the future[9].

As the 11th goal in the Sustainable Development Goals (SDGs) focuses on building quality, safe, and sustainable cities and communities[10], the concept of sustainable

[1] Thirsya Widya Sulaiman et al., "Literature Review: Penerapan Big Data Dalam Kesehatan Masyarakat," *Satukata: Jurnal Sains, Teknik, Dan Studi Kemasyarakatan* 1, no. 36 (2023): 129–38, https://publish.ojs-indonesia.com/index.php/SATUKATA/article/view/801/623.

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[10] Wahyuningsih, "Millenoum Development Goals (MDGs) Dan Sustainable Development Goals (SDGs) Dalam Kesejahteraan Sosial," *Bisma Jurnal Bisnis Dan Manajemen* 11, no. 3 (2017): 390–99,

development is an essential foundation for understanding the existence of a Smart City. Smart City refers to using digital technology and advanced connectivity to improve the quality of life, efficiency of public services, and sustainable management in urban environments[11]. Frost & Sullivan has identified eight key elements that comprise the Smart City concept, including smart governance, mobility, energy, buildings, infrastructure, healthcare, technology, and citizens[12]. At least five out of eight elements must be realized to classify a city as a Smart City. Meanwhile, Giffinger has come up with another view of the elements, including smart government, smart economy, smart mobility, smart environment, smart living, and smart society[13]. Integrity among these elements is the key to creating a sustainable positive impact.

The implementation of the Smart City concept has spread to various countries around the world, such as America[14], Europe[15], and Asia[16]. As one of the developing countries [17], Indonesia participated in implementing the Smart City development concept.[18]. An example of Indonesia's participation is "Gerakan Menuju 100 Smart City" program[19]. In fact, the Indonesian National Capital City, as issued in Article 3 Paragraph 2 point g of Law No 3 of 2022 on the National Capital City (referred to as *UU IKN*), has adopted the concept of "*Kota Cerdas*" as one of the principles in the development of the National Capital City[20]. It shows that Indonesia has actively followed the advancement of Smart City and even made it a principle in the development of the National Capital. Although Indonesia has played an

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[20] Rifaid et al., "Smart City Development in the New Capital City : Indonesian Government Plans," *Journal of Contemporary Govenance and Public Policy* 4, no. 2 (2023): 115–30, https://journal.ppishk.org/index.php/jcgpp/article/download/141/45.

active role in implementing the Smart City concept, there is no legal regulation that specifically regulates Smart City in this country. Meanwhile, Law No 3 of 2022 is on National Capital, but South Korea already have the regulation Smart City specifically (Act No.17945: Act on The Promotion of Smart City Development and Industry). Considering Indonesia's principle as a state of law, where positive law occupies a central position, it is necessary to consider developing legal rules or policies that support the legality of Smart City in Indonesia to create an orderly and organized state environment[21].

Studies on Smart City to date have reviewed various aspects, such as the basic concepts of Smart City, empirical research related to its implementation in certain areas[22], the use of e-government as a tool for Smart City implementation[23], and analysis of the Internet of Things (IoT) perspective on Smart City [24]. Only a few studies specifically focus on comparing the legal aspects of Smart City in Indonesia with other countries. Thus, this is the background of the present study. Furthermore, the study focuses on conducting a comparative analysis of the Smart City legal framework in Indonesia with South Korea, which has implemented "Act No.17945: Act on The Promotion of Smart City Development and Industry". Since there is no specific legal regulation governing Smart City in Indonesia, the author utilizes several regulations in several regions as analogies compared to Smart City law in South Korea. This study is expected to provide a comprehensive understanding of the comparative legal aspects between Indonesia and South Korea in the context of Smart City. The results are expected to contribute to the government, legislative institutions, and other stakeholders in improving and developing the necessary regulations, as well as formulating appropriate strategies in realizing the goals of sustainable Smart City development in Indonesia. This study is also expected to provide a deeper understanding of the challenges and opportunities in developing a positive legal framework in Indonesia to support the advancement of Smart City in the future.

METHOD

This current qualitative study adopts a normative legal method in emphasizing analysis and interpretation of applicable legal norms[25]. The main focus of this method is to

[21] Indra Rahmatullah, "Meneguhkan Kembali Indonesia Sebagai Negara Hukum Pancasila," *'Adalah: Buletin Hukum Dan Keadilan* 4, no. 2 (2020): 39–44, http://journal.uinjkt.ac.id/index.php/adalah/article/download/16108/7433.

[22] Dwi Wahyu Handayani, Syafarudin, and Lilih Muflihah, "Problem Realisasi Kebijakan Smart City Di Indonesia : Kasus Kota Bandar Lampung," *Jurnal Ilmu Sosial Dan Ilmu Politik* 11, no. 1 (2021): 35–62, https://journal.uinsgd.ac.id/index.php/jispo/article/download/10765/5921.

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[25] David Tan, "Metode Penelitian Hukum: Mengupas Dan Mengulas Metodologi Dalam Menyelenggarakan Penelitian Hukum," *Nusantara: Jurnal Ilmu Pengetahuan Sosial* 8, no. 8 (2021): 2463–78, https://ejournal.undiksha.ac.id/index.php/jkh/article/view/23442/14341.

understand and interpret the normative aspects of legal structures, including laws and regulations. It aims to investigate the readiness of the positive legal framework in Indonesia to support Smart City development by considering aspects of legal certainty, justice, and expediency [26]. The data used is secondary and obtained by literature studies. This method involves collecting and analyzing legal documents related to the development of Smart City in Indonesia, including laws and regulations, government policies, and other relevant documents. The aim is to evaluate the extent to which the existing legal framework supports implementing the Smart City concept while identifying potential shortcomings or gaps in the legal framework. This study also adopts a law and comparative approach by comparing the Smart City legal framework in Indonesia with that of South Korea. By the analysis, the study seeks to illustrate the similarities and differences in the legal approaches used by different countries in the context of Smart City. As such, this study aims to provide a deeper understanding of the role of law in developing and implementing Smart City in Indonesia.

DISCUSSION

A. The Idea on Smart City Advancement in Indonesia

The realization of Smart City advancement in Indonesia certainly requires a fundamental idea. The idea itself is a thought that will be conveyed to other people as listeners or readers[27]. The idea of Smart City development is first based on a fundamental concept of Smart City. The fundamental concept is related to the definition, characteristics, and comparison to Smart City in other countries.

Besides, several things need to be considered related to the advancement of Smart City in Indonesia. Appropriate legal instruments are needed to provide parameters or indicators in Smart City development. These legal instruments can be utilized so that the development and implementation of a Smart City follow the rule of law and certainly have legal certainty so that it does not become an arbitrary Smart City.

B. The Concept of Smart City

Fundamentally, the term of "Smart City" does not have a precise definition universally accepted in academic literature yet[28]. The term's history can be traced back to the emergence of interest in the concept in the 1990s[29]. Initially, the term emerged in the context of urbanization in the United States, which was in line with the development of

[26] 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://journal.uib.ac.id/index.php/jjr/article/view/7280/2878.
[27] Erwin Harianto, "Metode Bertukar Gagasan Dalam Pembelajaran Keterampilan Berbicara," *Didaktika: Jurnal Kependidikan* 9, no. 4 (2020): 411–22, https://doi.org/10.58230/27454312.56.
[28] Arkalgud Ramaprasad, Aurora Sanchez-Ortiz, and Thant Syn, "A Unified Definition of a Smart City," *International Conference on Electronic Government*, 2017, 13–24, https://doi.org/https://doi.org/10.1007/978-3-319-64677-0_2.
[29] Ola Soderstrom, Till Paasche, and Fransisco Klauser, "Smart Cities as Corporate Storytelling," *City* 18, no. 3 (2014): 307–20, https://doi.org/https://doi.org/10.1080/13604813.2014.906716.

information technology[30]. However, it should be emphasized that understanding Smart City can vary significantly between different layers of society living in different geographical areas. Hence, this understanding is often subjective and contextual. However, another view on the origin of "Smart City" is that International Business Machine Corporations (IBM) first initiated this in 1998[31]. The concept of Smart City from IBM's point of view refers to a city with intelligently integrated infrastructure and systems to improve efficiency and service quality. Before the term Smart City became common in public conversation, some experts even tried to use terms like "digital city" or "cyber city"[32] to describe similar concepts. Smart City is conceptualized as a city area integrated with IoT, is safe and comfortable, and can provide access to services for the community.

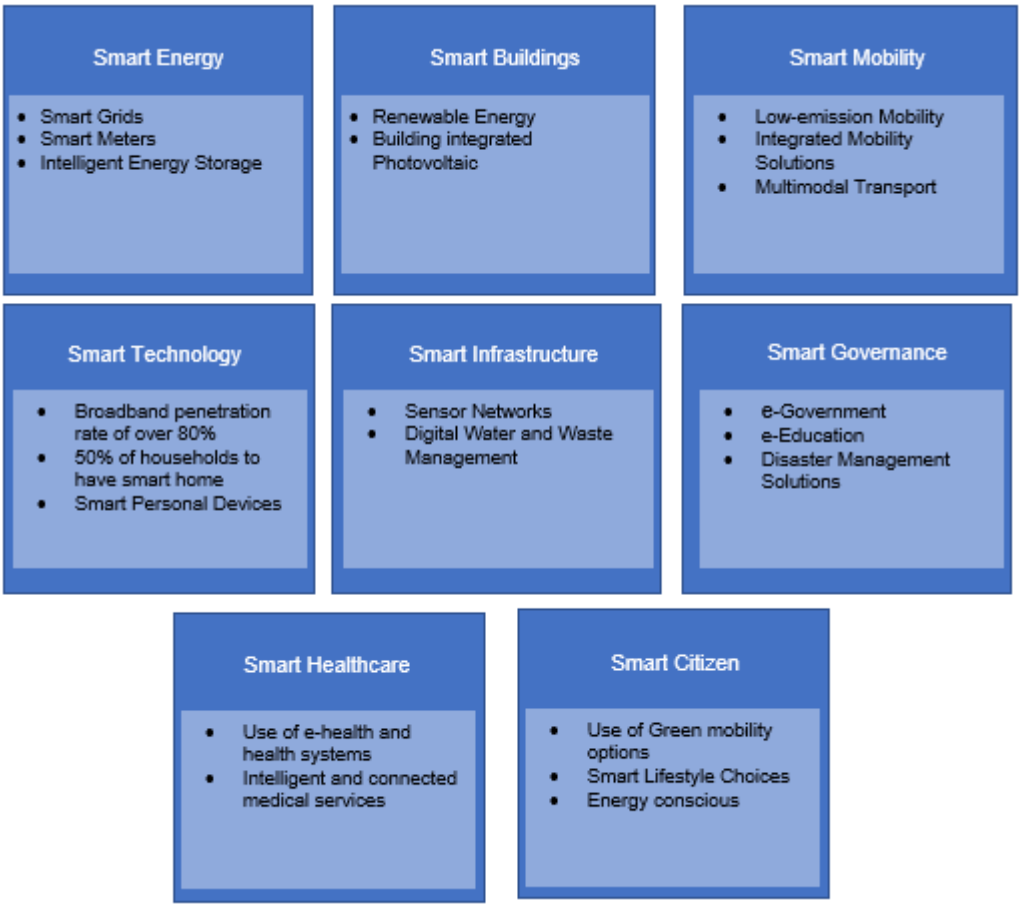
The characteristics popularized by *Frost & Sullivan* in the form of eight elements that form a Smart City as follow;[33]

[30] Alberto Vanolo, "Smartmentality: The Smart City as Disciplinary Strategy," *Sage Journals* 51, no. 5 (2013), https://doi.org/https://doi.org/10.1177/0042098013494427.

[31] Naufal Fikhri Khairi and Jordan Aria Adibrata, "Agro-Based Smart City Kota Batu : Implementasi Dan Tantangan," *Jurnal Kebijakan Publik* 11, no. 2 (2020): 55–62, https://jkp.ejournal.unri.ac.id/index.php/JKP/article/view/7913/6793.

[32] Muhammad Salman Jabbar Sangaji, Putri Zorayya Priyanti Noor, and Suci Navasari, "Analisis Kebijakan Jakarta Smart City Menuju Masyarakat Madani," *Journal of Government Insight (JGI)* 1, no. 2 (2021): 62–75, https://jurnal-umsi.ac.id/index.php/jgi/article/view/306/241.

[33] Helena Dudycz and Igor Piątkowski, "Smart Mobility Solutions In Public Transport Based on Analysis Chosen Smart Cities," *Informatyka Ekonomiczna* 2, no. 48 (2018): 19–35, https://doi.org/10.15611/ie.2018.2.02.



Besides Frost & Sullivan, Giffinger states six elements that make up a Smart City as follows;

Most studies use the standards created by Giffinger, such as the study related to Smart City implementation schemes in several regions in Indonesia. An example is a study entitled "*Analisis Penerapan Smart City di Kabupaten Kendal Tahun 2016-2021*"[34]. In this study, the parameters used are the Smart City characteristics presented by Giffinger. Further, the study titled "*Kesiapan Masyarakat dalam Pelaksanaan Smart City Kota Surakarta*" also uses Giffinger's six Smart City characteristics in its theoretical study [35].

C. The Comparison between the Law in Indonesia and South Korea Regarding Smart

[34] Bagus Utama Aditya Putera, Teguh Yuwono, and Nunik Retno H, "Analisis Penerapan Smart City Di Kabupaten Kendal Tahun 2016-2021," *Journal of Politic and Government Studies* 11, no. 3 (2022): 502–17, https://ejournal.ipdn.ac.id/JIPWP/article/view/1400/866.

[35] Francisco Amaral, Indra Kertati, and Setyohadi Pratomo, "Kesiapan Masyarakat Dalam Pelaksanaan Smart City Kota Surakarta," *Jurnal Bengawan Solo: Pusat Kajian Penelitian Dan Pengembangan Daerah Kota Surakarta* 1, no. 1 (2022): 1–17, http://jurnal-bengawansolo.org/index.php/jbs/article/view/1/34.

City

South Korea has enacted a significant legislation namely *Act No. 17945: Act on The Promotion of Smart City Development and Industry*, which is the legal basis governing the development of Smart City in the country. On the other hand, Indonesia still faces challenges in formulating specific regulations related to the Smart City concept. Generally, regulations related to Smart City in Indonesia vary by region, which creates variations in the interpretation and implementation of the smart city concept. It can lead to discrepancies in understanding the concept of Smart City. To date, regional governments responsible for the Smart City advancement still refer to existing laws and regulations, such as Law No. 25/2004 on the National Development Planning System, Law No. 11 of 2008 on Electronic Information and Transactions, Law No. 14 of 2008 on Public Information Disclosure, Law No. 25 of 2009 on Public Services, and Law No. 23 of 2014 on Regional Government[36]. The author compares five leading indicators to understand better the differences and similarities between the concept of Smart City in South Korean and Indonesian law. First, a comparison of the definition of Smart City stated in both laws. Second, the legal reasoning behind enacting the Smart City regulation must be examined. Third, tracing the governing body responsible for managing Smart City. Fourth, the institutions established as Smart City organizers are identified, and finally, the sanctions imposed for violations of Smart City regulations are reviewed. This research aims to provide a more comprehensive understanding of how the two countries regulate the Smart City concept in the legal realm and provide a foundation for better development in the future.

a. The Comparison of Meanings

To start the initial comparison, we need to know how the laws in Indonesia and South Korea define "Smart City". In Indonesia, various regional regulations regulate the concept of Smart City; one of it is Article 1 point 7 of the Bandung Mayor Regulation (Perwal) No. 1470 of 2018 on "*Rencana Induk Bandung Kota Cerdas (Master Plan Bandung Smart City) Periode 2018-2023*" which defines Smart City as follows *"Kota Cerdas (smart city) adalah pengelolaan kota yang memanfaatkan berbagai sumber daya secara efektif dan efisien untuk menyelesaikan berbagai persoalan kota menggunakan solusi inovatif, terintegrasi, dan berkelanjutan untuk menyediakan infrasruktur dan memberikan layanan-layanan kota yang dapat meningkatkan kualitas hidup warganya."*

Meanwhile, in South Korea, Act No. 17945: Act on The Promotion of Smart City Development and Industry describes Smart City namely "The term "national pilot smart city" means a smart city designated and developed under Article 35 as a city with smart city services and smart city technologies grafted onto its urban space for managing intelligent cities and fostering innovative industries"

[36] Adi Suhendra, "Kesiapan Pemerintah Daerah Dalam Mewujudkan Kota Cerdas Di Badung Dan Surabaya," *Matra Pembaruan* 1, no. 1 (2017): 1–9.

In other side, South Korean regulations also mention a definition for another form of Smart City, namely "National Pilot Smart Cities." Article 1-2 explains "The term "national pilot smart city" means a smart city designated and developed under Article 35 as a city with smart city services and smart city technologies grafted onto its urban space for managing intelligent cities and fostering innovative industries".

Substantially, those regulations have similar definitions, which discuss the concept of Smart City as a sustainable city integrated with technology. The goal is to create various services to solve urban problems and improve the quality of life for its citizens. However, the difference that emerges is that the regulation in South Korea includes a definition for the term "National Pilot Smart Cities," an example or reference for developing other Smart City concepts. Thus, an in-depth understanding of the legal definition of Smart City in these two jurisdictions is essential to understanding the underlying concept and the differences in their legal approaches to Smart City development and implementation.

b. Comparison Basic of Consideration

Next, the laws and regulations that are the basis of consideration for the two regulations will be reviewed. By comparing the basis of consideration, we can see the orientation of the formation of legal rules related to Smart City in Indonesia and South Korea. The following is a comparison table regarding the basis of legal considerations between one of the Smart City regulations in Indonesia and the national Smart City law in South Korea.

***Perwal* No. 1470/2018**	**Act No.17945: Act on The Promotion Of Smart City Development And Industry**
1) Law No. 19 of 2016 on Amendment to Law No. 11 of 2008 on Electronic Information and Transactions	1) Act No. 18473: "National Land Planning and Utilization Act"
2) Law No. 14 of 2008 on Public Information Disclosure	2) Act No. 15682: "Housing Site Development Promotion Act"
3) Law 25 of 2009 on Public Services	3) Act No. 15600: "Urban Development Act"
4) Law No. 9 of 2015 on Second Amendment to Law No. 23 of 2014 on Regional Regulation.	4) Act No. 18045: "Special Act on The Development of Enterprise Cities"
5) Law No. 30 of 2014 on Government Administration	5) Act No. 18947: "Special Act on The Construction of Admministrative City in Yeongi-Gongju Area For Follow-Up Measures For New Administrative Capital"
6) Regional Regulation No. 8 of 2008 on Regional Long-Term Advancement Plan 2005-2025	6) Act No. 18942: "Special Act on Promotion of and Support for Urban Regeneration"

7) Regional Regulation No. 1 of 2018 on Amendment to Bandung Regional Regulation No. 03 of 2014 on regional Medium-Term Advancement Plan 2013-2018	7) Act No. 17344: "Framework Act on Intelligent Informatization"
	8) Act No. 18387: "Framework Act on The National Land"
	9) Act No. 18795: "Act on The Management of Public Institutions"
	10) Act No. 17637: "Korea Housing Finance Corporation Act"
	11) Act No. 18496: "Local Public Enterprises Act"
	12) Act No. 17148: "Act on Public-Private Partnerships in Infrastructure"
	13) Act No. 17653: "Framework Act on The Construction Industry"
	14) Act No. 18096: "Electrical Construction Business Act"
	15) Act No. 18869: "Telecommunications Business Act"
	16) Act No. 18737: "Information and Communications Construction Business Act"
	17) Act No. 17348: "Software Promotion Act"
	18) Act No. 18914: "Sewerage Act"
	19) Act No. 16772: "Small River Maintenance Act"
	20) Act No. 15997: "Road Act"
	21) Act No. 17891: "Road Traffic Act"
	22) Act No. 19045: "Building Act"
	23) Act No. 19133: "Public Waters Management and Reclamation Act"
	24) Act No. 17339: "State Property Act"
	25) Act No. 19022: "Public Property and Commodity Management Act"
	26) Act No. 18021: "Farmland Act"
	27) Act No. 18755: "Agricultural and Fishing Villages Improvement Act"
	28) Act No. 15309: "Mountainous Districts Management Act"
	29) Act No. 18882: "Creation and Management of Forest Resources Act"
	30) Act No. 19115: "Forest Protection Act"
	31) Act No. 18022: "Erosion Control Work

	Act"
	32) Act No. 17219: "Grassland Act"
	33) Act No. 18523: "Fire Prevention and Safety Control Act"
	34) Act No. 18522: "Firefighting System Installation Business Act"
	35) Act No. 18047: "Act on Urban Parks and Green Areas"
	36) Act No. 16613: "Soil Environment Conservation Act"
	37) Act No. 18905: "Clean Air Conservation Act"
	38) Act No. 17326: "Water Environment Conservation Act"
	39) Act No. 17843: "Noise and Vibration Control Act"
	40) Act No. 18275: "Industrial Standardization Act"
	41) Act No. 17357: "Act on The Protection of Information and Communications Infrastructure"
	42) Act No. 18871: "Act on Promotion of Information and Communications Network Utilization and Information Protection"
	43) Act No. 17302: "Framework Act on International Development Cooperation"
	44) Act No. 13816: "Economic Development Cooperation Fund Act"
	45) Act No. 16187: "Credit Guarantee Fund Act"
	46) Act No. 19014: "Korea Technology Finance Corporation Act"
	47) Act No. 18316: "Housing and Urban Fund Act"
	48) Act No. 18949: "Motor Vehicle Management Act"
	49) Act No. 18789: "Aviation Safety Act"
	50) Act No. 19077: "Protection of Military Bases and Installations Act"
	51) Act No. 18705: "Framework Act on Small and Medium Enterprises"
	52) Act No. 18661: "Monopoly Regulation and Fair Trade"
	53) Act No. 18346: "Passenger Transport Service Act"

	54) Act No. 17238: "Regional Development Assistance Act"
	55) Act No. 16322: "Framework Act on Administrative Regulations"
	56) Act No. 17571: "Criminal Act"

Using laws and regulations as a basic for law considerations in Smart City regulations in South Korea refers more to the direction (assist) of other substantively relevant Acts. So, in Smart City law in South Korea, the law basic used is not in one Article but in Articles that discuss each substance, unlike the law in Indonesia, where the law basic is stated in the '*Mengingat*' section. It also distinguishes the orientation of regulations in Indonesia and South Korea. Perwal No. 1470 of 2018 uses laws and regulations relevant to development, government administration, and public information access. Meanwhile, regulations in South Korea emphasize the regulation of various aspects, ranging from residential development, Smart City projects, technology and information, environmental schemes in Smart City, economy, transportation and traffic, buildings and infrastructure, military, government administration, and criminal law. So that all forms of basic considerations in South Korean regulations appear more complex.

c. The Government Who Manage the Smart City

The advancement and implementation of Smart City in Indonesia, as described by several existing regulations, shows significant variations in each region. This results in notable differences in the regulations enacted, which are controlled by the local authority, i.e., the mayor or regent. As a concrete illustration, the Depok City Government has issued Depok City Regional Regulation No. 2 of 2019 on "*Penyelenggaraan Kota Cerdas"* expressly applies only to the City of Depok. Within this framework, the essential function of the Municipal Local Government, led by the Mayor as the central element in regional government administration, becomes apparent[37]. Another case that can be exemplified is Bandung Smart City, which illustrates the existence of Bandung Mayor Regulation No. 1470 of 2018[38]. This regulation explicitly applies to the Bandung City area and regulates various aspects of Smart City. It is important to note that Smart City initiatives are also found in various regions across the country, such as Samarinda City in East Kalimantan, which has a Mayor Regulation Number 8 of 2018 that enacted a "*Masterplan Smart City Pada Pilar Smart Environment Kota Samarinda*" [39].

[37] Supriyatin.

[38] Eko Budi Santoso and Annisa Rahmadanita, "Smart City Di Kota Bandung: Suatu Tinjauan Aspek Teknologi, Manusia, Dan Kelembagaan," *Jurnal Teknologi Dan Komunikasi Pemerintahan* 2, no. 2 (2020): 16–40, http://jim.usk.ac.id/sejarah/article/download/24674/11486.

[39] Hafizh Fakhriyat Noor, Aji Ratna Kusuma, and Bambang Irawan, "IMPLEMENTASI PERATURAN WALIKOTA NOMOR 8 TAHUN 2018 TENTANG MASTERPLAN SMART CITY PADA PILAR SMART ENVIRONMENT KOTA SAMARINDA," *EJournal Administrasi Publik* 8, no. 1 (2020): 9030–42, http://ejournal.ap.fisip-unmul.ac.id/site/wp-content/uploads/2020/03/Jurnal Hafiz (03-19-20-05-40-34).pdf.

On the other hand, in the context of Smart City regulation in South Korea, a provision instructs the Ministry of Land, Infrastructure, and Transportation to formulate a Smart City (comprehensive plan) every five years (Article 4). The plan covers advancement, management, operations, and so on related to efficient construction and smart city. As such, the aim is to ensure the effective and sustainable advancement of Smart Cities in South Korea. Smart City regulations in Indonesia show significant diversity influenced by regional autonomy. In contrast, in South Korea, the role of the central government is more involved in formulating the Smart City comprehensive plan. It shows the differences in the approach and implementation of Smart City in different jurisdictions; however, what remains consistent is the main objective to achieve efficient and sustainable development in the context of smart cities.

d. The Institutions Established as the Smart City Organizer

In the context of Smart City implementation in Indonesia, the organizers have a significant role. Smart City organizers can take the form of committees or bodies formed by regional governments[40]. However, it is essential to note that regulations related to Smart City may vary from one region to another in Indonesia. This difference in regulation can result in various policies regarding the entity responsible for managing the Smart City. It is supported by the provision referred to in Article 386 of Law No. 23 of 2014 on Regional Government, which confirms that "*Dalam rangka peningkatan kinerja penyelenggaraan Pemerintahan Daerah, Pemerintah Daerah dapat melakukan inovasi*." Thus, each region has the flexibility to create innovations aimed at improving the performance of local government following the characteristics and particular needs of the region. In the context of Smart City, this indicates that local governments can formulate innovations that support the development of Smart City, including the possibility of establishing a council or committee that has a central role in the implementation of Smart City. As a concrete illustration, Depok Regional Regulation (*PERDA*) No. 2 of 2019 provides a concrete example related to establishing the Regional Smart City Council. Article 1 point 6 of the regulation explains that the Regional Smart City Council is a multi-stakeholder institution established by the Depok Local Government to support the Local Government in managing Smart Cities. Furthermore, Article 14 Paragraph (1) of the regulation outlines the purpose of establishing the Smart City Council, which includes a forum for the participation of various sectors and elements of society in accelerating the development and implementation of Smart Cities. Furthermore, the duties and functions of the Smart City Council, as stated in Article 15 of the regulation, include providing direction, assisting in monitoring and evaluation, and involving the community in the identification of needs, monitoring, and evaluation related to Smart City. Rules and regulations relevant to Smart City entities, such as Smart City Councils, provide clear guidance on the roles, responsibilities, and objectives to be achieved in order to achieve

[40] Siti Widharetno Mursalim, "Implementasi Kebijakan Smart City Di Kota Bandung," *Jurnal Ilmu Administrasi* 14, no. 1 (2017): 126–39, https://www.academia.edu/download/73183703/pdf_1.pdf.

successful Smart City implementation at the local level. In this study, these regulations are essential in understanding the dynamics and roles of Smart City delivery entities in law and governance.

South Korean law expressly provides for a special committee responsible for developing and managing Smart Cities, as stated in Article 23, paragraph 1. This Smart City Committee, in the context of South Korean legal regulations, is formed under the auspices of the Ministry of Land, Infrastructure, and Transportation. The committee's main tasks cover various aspects, from comprehensive planning to coordination between central government agencies and local governments and government support in promoting Smart City development. Other regulated points include integrating sectoral information systems, the designation of national pilot smart cities, and other essential matters that Presidential Regulation further regulates. In South Korean law, the number of members in the national committee is also clearly regulated in Article 23, paragraph 2, which limits the number of members to 30, including two chairpersons and three vice chairpersons. In addition, there is also the Support Agency for National Pilot Smart Cities (Article 23-2), which specializes in pilot smart cities in South Korea. It assists the Ministry of Land, Infrastructure, and Transportation in various aspects, from design to operational support of National Pilot Smart Cities. In addition, there is also the Consultative Council for Smart City Projects (Article 24), which has an important role in providing input and consultation on Smart City project implementation, infrastructure management, and related transactions in the context of Smart Cities. The emphasis on collaboration between the government, supporting agencies, and consultative councils in South Korea's Smart City regulation is an important part of driving the development and success of Smart City initiatives in the country.

The comparison also reveals a notable difference between South Korea's and the Smart City regulations in Depok City, Indonesia. Depok City's regulations include establishing a Smart City Council, but it has a different institution than the National Pilot Smart Cities and Smart Cities Project in South Korea. In other words, South Korea has developed more specialized institutions and support mechanisms to support Smart City development, while Depok has a more limited approach.

e. The Sanctions for Violations of the Smart City Regulation

Not all of Smart City regulations in various regions in Indonesia have drafted substances that explicitly address actions that may violate the law. In the author's view, regulations such as the Criminal Code (*KUHP*) can be used to deal with criminal law violations in the context of Smart City. In addition to the Criminal Code, if criminal acts in the Smart City environment are related to the cyber, then the criminal articles listed in Law No 11 of 2008 concerning Electronic Information and Transactions (UU ITE) are relevant channels to enforce the law.

In contrast, the regulations related to Smart City in South Korea have established Articles that expressly list prohibited acts and corresponding criminal sanctions against such

violations. As Article 54 "Any of the following persons shall be punished by imprisonment with prison labor for up to three years or by a fine of not exceeding 30 million won: 1. A person who has been approved for a smart innovation project plan by fraud or other improper means; and 2. A person who has been approved for a smart demonstration project plan by fraud or other improper means."

The regulation details the criminal provisions, which include offenders who obtain approval for smart innovation project plans through fraudulent acts or other unauthorized means and offenders who obtain approval for innovative demonstration project plans through fraudulent acts or other unauthorized means. In this context, South Korea's regulations are more stringent and explicit in addressing violations within the scope of Smart City.

D. The Benefit of Smart City Regulation in South Korea

The presence of the rule of law should be based on the three fundamental values of law: justice, benefit, and certainty[41]. Thus, Smart City regulations are more than just written rules to support legal certainty. Conversely, they must fulfill the basic values of justice and benefit. In this case, the author has a view of the benefits of creating Smart City regulations in South Korea. Reporting from tempo.co, in the news titled *"Begini Cara Korea Selatan Bangun Smart City dan TOD*". The news reported on the cooperation between Indonesia and South Korea on the development of Smart City with the scheme "Transit Oriented Development."

The presence of the rule of law in the context of Smart City regulation manifests the fundamental principles of law rooted in three essential values: justice, expediency, and legal certainty[42]. It shows that Smart City regulations are not merely legal documents that aim to create legal certainty. Instead, these regulations must also integrate the principles of justice and expediency within the regulatory framework. Particularly in the context of this research, the author would like to highlight the benefits of implementing Smart City regulations in South Korea. It is reflected in the news reported by tempo.co titled *"Begini Cara Korea Selatan Bangun Smart City dan TOD".* The news revealed the cooperation/collaboration between Indonesia and South Korea in developing Smart City with Transit Oriented Development (TOD) approach[43]. Thus, this study seeks to go deeper, looking further into how Smart City regulations in South Korea can combine essential legal values, namely justice, benefit, and certainty, to significantly contribute to the development of Smart City in

[41] Mario Julyano and Aditya Yuli Sulistyawan, "Pemahaman Terhadap Asas Kepastian Hukum Melalui Konstruksi Penalaran Positivisme Hukum," *Jurnal Crepido* 1, no. 1 (2019): 13–22, https://ejournal2.undip.ac.id/index.php/crepido/article/download/6325/3197#:~:text=Radbruch menuliskan bahwa di dalam,) Kepastian Hukum (Rechtssicherheit).

[42] Julyano and Sulistyawan.

[43] Eko Budi Santoso and Annisa Rahmadanita, "Smart Government Dalam Rangka Mewujudkan Smart City Di Kota Bandung," *Jurnal Ilmu Pemerintahan Widya Praja* 46, no. 2 (2020): 317–34, https://doi.org/10.33701/jipwp.v46i2.1400.

Indonesia and its benefits for society as a whole.

Indonesia has been cooperating with South Korea in developing Smart City, and one of the main reasons behind this collaboration is South Korea's ability to develop Smart City very quickly. This remarkable development speed is mainly because South Korea already has laws that explicitly regulate Smart City. The statement made by Ahn Se-Hee, Deputy Director of Urban Policy, Ministry of Land, Infrastructure and Transport (MOLIT) of the Republic of Korea, underlines the important role that this Smart City Act plays in accelerating the development process. In addition to only regulating aspects of information and communication systems, South Korean legislation also covers other important aspects, such as urban planning and energy. Concerning this statement, it is evident that regulations that specialize in Smart City can be an essential catalyst in the development of Smart City. It is reflected in the completeness of the relevant legal rules and how this legal substance can cover various aspects of the Smart City concept. Therefore, Smart City regulations have the potential to present three fundamental basic legal values. In addition, it can also be a valuable guide for Indonesia in designing specific regulations related to Smart City, which aims to create an efficient and sustainable Smart City development environment.

E. The Smart City Regulation in Sout Korea as Reference for Indonesia's Rule of Law

The exclusive regulation of the Smart City concept implemented in South Korea is a significant reference point for drafting Smart City legal regulations in Indonesia. It involves integrating various existing legal regulations, which are substantially related to the demands and requirements needed to realize the Smart City concept in Indonesia. Thus, drafting such a legal regulation adopts an approach known as Omnibus Law. Omnibus Law describes a legal initiative that compiles and combines various aspects of related legal regulations to create a more comprehensive and efficient regulatory framework. In the context of Smart City, the application of Omnibus Law principles aims to reduce potential overlaps and inconsistencies in regulations, which often become obstacles to the holistic and coordinated development of Smart City. Thus, by referring to South Korea's existing Smart City regulatory approach as a foundation, Indonesia can take a step forward in building an appropriate and comprehensive legal foundation for the sustainable development of Smart City in this country.

Omnibus Law is an approach to lawmaking that involves combining several regulations with different substances into one legal entity. In the context of Smart City, Omnibus Law can be used to integrate various regulations related to Smart City implementation into one comprehensive law[44]. It allows for simplifying rules, overcoming conflicts between applicable regulations, improving coordination between relevant agencies, and providing law

[44] Wicipto Setiadji, "Simplifikasi Regulasi Dengan Menggunakan Metode Pendekatan Omnibus Law," *Recthsvinding* 9, no. 11 (2020): 39–52, https://rechtsvinding.bphn.go.id/ejournal/index.php/jrv/article/download/408/239.

certainty[45]. The advantages of the Omnibus Law approach in lawmaking are as follows. First, rule simplification allows for more precise target achievement in Smart City implementation. Second, the Omnibus Law can resolve conflicts between regulations that apply at the national and regional levels, thus avoiding confusion in implementation. Third, this approach can improve coordination between various agencies involved in Smart City implementation, ensuring synergy in implementing Smart City programs. Fourth, adopting the Omnibus Law can provide important legal certainty for parties involved in development and investment in the context of Smart City.

In addition to the advantages that have been explained, it is also necessary to understand some of the shortcomings of the Omnibus Law approach. First, it should be noted that currently, there is no separate regulation that explicitly regulates the Omnibus Law in Indonesian legislation. This situation creates room for diverse interpretations and legal interpretations that have the potential to cause legal uncertainty. Second, the Omnibus Law scheme can ignore the formal requirements usually required in forming conventional laws. Acting laws involving various parties and aspects can ensure broader representation in lawmaking, while the Omnibus Law can override this process. Third, there is a concern that the Omnibus Law approach needs more direct public involvement in the decision-making process that impacts public policy. It may reduce the level of public participation and transparency in lawmaking. Fourth, if implementing the Omnibus Law scheme is not successful as planned, it may result in a potentially confusing regulatory burden. The uncertainty arising from unsuccessful implementation may impact legal stability and investor confidence. It is essential to recognize that the Omnibus Law is an innovation in the lawmaking process that aims to accelerate legal reform and encourage investment. However, as a new legal approach, it needs to be pursued with caution, considering various legal implications and ensuring broad participation and transparency in the process to maintain its integrity and effectiveness in the context of the rule of law in Indonesia[46].

Another opportunity to use the Omnibus Law is to create an entirely new legal framework, with adjustments made to the conditions in each region in Indonesia. Discuss adjusting conditions, the Smart City law rules may vary in each region in Indonesia, but there must still be one national rule, where this national law rule becomes the primary standard for making legal frameworks in each region if the most feasible scheme is a legal framework that is adjusted to each region in Indonesia. Of course, the implementation or development of Smart City can only necessarily be done by estimating the adverse effects or shortcomings that can occur in the future. Because Smart City is a massive projection of IoT, it is also related to cybersecurity, which is the basic scheme in IoT. Therefore, a rule of law that

[45] Helmi Helmi, Fitria Fitria, and Retno Kusniati, "Penggunaan Omnibus Law Dalam Reformasi Regulasi Bidang Lingkungan Hidup Di Indonesia," *Masalah-Masalah Hukum* 50, no. 1 (2021): 24–35, https://doi.org/10.14710/mmh.50.1.2021.24-35.

[46] Gilang Ramadhan, "Omnibus Law Sebagai Sarana Utama Penataan Regulasi," *Yurispruden* 3, no. 2 (2020): 172–85, https://core.ac.uk/download/pdf/327265939.pdf.

regularly addresses cyber issues is required. In this case, the rule of law is needed to overcome cybercrime.

CONCLUSION

The Smart City concept, which results from a massive projection of the Internet of Things (IoT) phenomenon, brings complexities that require a comprehensive law framework. In line with the advancement, especially in implementing information and communication systems in city development, the need for legal regulations that embrace all aspects has become increasingly important. One country that has taken progressive steps in this regard is South Korea, which passed the Smart City Act. Thus, South Korean law has played a significant role in accelerating the country's development of Smart City. On the other hand, Indonesia, as a developing country responding to the Smart City development trend, still needs a similar legal framework at the national level. In Indonesia, the existing legal framework tends to follow the policies issued by local governments, given the different Smart City development schemes in each region.

A significant difference between the two countries lies in Smart City laws at the national level. South Korea has successfully implemented a Smart City law that covers various aspects, not just information and communication systems. Furthermore, another substantial difference lies in the 'National Pilot Smart City' concept, which is implemented in South Korea as an example for other regions. In the Indonesian context, no national legal framework explicitly regulates Smart City, in contrast to South Korea, which already has a legal framework that directs other laws related to Smart City. Alternatively, Indonesia could consider an Omnibus Law-like approach to address the deficiencies in the Smart City legal framework. In this case, Indonesia could combine relevant articles from existing laws to form a comprehensive legal framework. However, it should be noted that the Omnibus Law approach has its advantages and disadvantages. The advantages include harmonization between existing regulations and cost savings, while the disadvantages lie in the need for more clarity in the regulations regarding the Omnibus Law framework itself. In addition, it can also reduce public participation in forming the substance of the rule of law and potentially become a regulatory burden if its implementation is not successful.

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