Digitalization as a Concept for Prevention of Criminal Acts of Corruption in Indonesia Against Vulnerability in Innovation Implementation at the Regional Level

Audaraqiz Ismail[1], Febby Mutiara Nelson[2], Basuki Rekso Wibowo[3], Stanislaus Riyanta[4]
[1]Universitas Indonesia, Jakarta, Indonesia, audaraziqlaw@gmail.com
[2]Universitas Indonesia, Jakarta, Indonesia,
[3]Universitas Indonesia, Jakarta, Indonesia,
[4]Universitas Indonesia, Jakarta, Indonesia,

Corresponding Author: audaraziqlaw@gmail.com[1]

Abstract: This investigation aims to explore digitalization as a tool to prevent corruption at the local government level in Indonesia. A normative legal approach was used in this investigation, which analyzed secondary data, such as laws, regulations, and academic studies. This study indicated that digitalization had the potential to reduce the vulnerability to corruption by increasing transparency, accountability, and integrity in local government governance. By integrating e-catalogs and local government information systems, the government can create a tighter oversight mechanism for procuring goods and services. Several limitations in implementation are still to be found, including differences in infrastructure and technological readiness in various regions, which hinder the effectiveness of implementing digital policies in preventing corruption. This study concludes that a comprehensive and consistent digitalization strategy across all regions is essential to strengthening law enforcement and reducing corruption in Indonesia.

Keywords: regional government, state administrators, corruption crimes

INTRODUCTION

In Indonesia, Law No. 30 of 2014 on Government Administration (UUAP) contains provisions that form the basis of government bureaucracy. These provisions stipulate that government officials must adhere to the General Principles of Good Governance (AAUPB) standards in their duties. In the concept of office, there is a great burden of responsibility. Based on these provisions, government officials have many regulatory instruments when carrying out their functions. However, the existing regulations are insufficient to prevent deviations such as criminal acts of corruption in government circles (Pratiwi & Ningsih, 2023; Suryani et al., 2021).

Amidst decentralization efforts that allow local governments to manage resources, corrupt practices remain a serious obstacle to achieving effective and integrated governance. Openness in innovation and public services at the regional level is often faced with obstacles to transparency and accountability, where weak supervision increases opportunities for

deviations (Transparency International, 2023). Digitalization is expected to be a solution to this problem by offering an approach that reduces direct interaction in services and closes gaps for corruption through easily audited digital footprints (Stranas PK, 2023). Regulations governing regional innovation, such as Government Regulation Number 38 of 2017, provide strategic direction for local governments to improve service systems, empower communities, and increase competitiveness while maintaining the principles of good governance (Ministry of State Secretariat, 2017). However, the implementation of digitalization in the regions is often hampered by inadequate infrastructure and human resources, as well as resistance to change from within the bureaucracy (Utami, 2018). Therefore, integrating technology into regional governance requires not only technical readiness but also clear regulatory support and commitment from all stakeholders to effectively prevent criminal acts of corruption (Indonesia Corruption Watch, 2022).

Ministry of Home Affairs implements innovation by mentoring, coaching, facilitating, and evaluating local innovation. However, Law No. 23 of 2014 concerning Regional Government (referred to as the PEMDA Law) outlines the basics of competitiveness, especially excellence in applying regional innovation. Article 27 letter g states that this fosters and grows regional competitiveness. The regulation intends to determine how Regional Heads are required to advance and develop the competitiveness of their regions. The regulation is the basis for implementing government at the regional level to improve public services through innovation. Thus, the issue of innovation vulnerability in the implementation of regional government due to the potential for bureaucratic deviations such as corruption is a problem that must be resolved immediately.

The concept of decentralization in Indonesia emphasizes the authority of regional governments to manage their resources autonomously to meet the demand for services *from* the community. This concept provides more space for regional governments to make various breakthroughs to advance their regional economies (Seputarbirokrasi.Com, 2024). This is by what is written in the academic paper of the Draft Law on Regional Government, stating that, in general, decentralization and regional autonomy can encourage the emergence of various innovations (DPR Expert Body's Law Drafting Center, 2022). However, the more authority a region has, the greater the opportunity for deviations, such as corruption, collusion, and nepotism (Antari & Sedana, 2018).

However, on the one hand, decentralization does not only bring positive aspects but also has other impacts noted that; on the other hand, the decentralization policy is not free from a series of problems, such as the emergence of swelling regional organizations, the occurrence of political oligarchy by local elites, and symptoms of regional rebellion against the central government are some of them provides notes on the implementation of autonomy where the granting of authority to local governments to formulate policies and manage budgets, ultimately creates a dominance of power by local elites (Utami, 2018). The monopoly of authority to formulate policies and manage budgets makes access to regional resources vulnerable to corruption or abuse of authority. This problem then gave rise to a new discourse in the form of decentralization of corruption.

The best theory to explain how corruption occurs is the principal and agent approach. The community (referred to as the principal) and government employees (referred to as the agent) who choose politicians to lead the region can be regulated by agency theory (Zimmerman, 1977). Conflict arises when a contract separates the principal from the manager (agent). Political leadership plays a role in public sector corruption, which the agency theory approach explains. Public officials, in this case, the realm of the regional government, are given authority by the community. Politicians and other civil servants with interests that differ from the interests of the principal and often deviate from those interests are agents who are given authority. According to a CNN Indonesia news portal, many regional heads have

become corruption suspects because the results of the implementation of innovation are not optimal (CNN Indonesia, 2023). It was emphasized by Hendriawan as the Director of Regional Revenue, Directorate General of Regional Financial Development, Ministry of Home Affairs, according to the provisions of Article 389 of Law Number 23 of 2014 concerning Regional Government, that regional heads cannot be punished when carrying out innovations to boost regional original income (PAD). However, with the note that the innovation carried out does not violate the provisions contained in regional regulations (Perda) or regional head regulations (perkada)".

Based on KPK records, between 2004 and 2011, the KPK has resolved 284 corruption cases, including at the regional level. Most violations related to procurement of goods and services and service procedures have been revealed, with 96 cases and bribery in 82 cases. There are 42.06% of the total number of cases occurring in the regions with 98 cases. Of this number, the most violations occurred in East Java Province with 11 cases, DKI Jakarta with 10 cases, and Riau and Riau Islands with 10 cases (Corruption Eradication Commission, 2011). Other facts and data show that in the last 10 years, Indonesia has given birth to 205 new regions, consisting of 7 provinces, 164 regencies, and 34 cities. Since then, corrupt behavior in the regions has become increasingly rampant. Based on ICW records, up to one semester of 2010, at least 1,800 corruption cases have been revealed and have entered the courts. From this data, from 2004-2009, it was recorded that at least 1,243 DPRD members were involved in corruption.

The ease with which corrupt people in our government might influence the purchase of goods and services is a serious cause for alarm asserts that many organizations are now dealing with procurement fraud, which is no longer seen as an expected issue (Murray, 2014). Procurement fraud reportedly ranks as the world's second most common economic crime, while exact numbers are hard to come by. This number is only the "tip of the iceberg" when it comes to procurement fraud; the "successful" instances will go unrecognized.

According to a study that lays out several instances of unethical procurement practices in the UK, procurement procedures and rules reforms may help reduce exposure to such risks. On the other hand, procurement vulnerabilities get very less attention in scholarly works. Only three journal articles—one from and two from—addressing the possibility of fraud in China's construction industry were found through an online search of three prominent academic publishers (Basdevant et al., 2022; DS Evans, 1987). The dearth of discussion on procurement vulnerabilities, particularly in the regions, presents a new challenge in formulating how to conceptualize procurement vulnerabilities or, more broadly, innovations in the regions.

The Corruption Eradication Committee (KPK) recently published an article entitled "Study of Corruption Vulnerability Analysis" in the Draft Presidential Regulation on Government Procurement of Goods/Services Using the Corruption Risk Assessment Method. The study conducted by the KPK in analyzing the vulnerability aspect of the digitalization of procurement of goods and services was an effort to continue to perfect the implementation of digitalization and to close the gaps for corruption in the conventional concept. This vulnerability concept is expected to have a positive impact through improving supervision and mapping of potential risks. A preventive solution can also be created with a sharp analysis of possible vulnerabilities. This vulnerability concept can even become a double-edged sword against efforts to eradicate fraud and corruption because the perpetrators of corrupt acts will be more careful and look for new, neater methods to overcome vulnerabilities that have already been exposed. Based on this background, this investigation aims to examine the concept of organization innovation areas at government levels and identify vulnerabilities in organization innovation areas at government levels and the use of digitalization concepts for corruption prevention.

Therefore, innovation development in the regions must be supported by the ability of local governments and bureaucracies to be clean and have integrity. The digitalization of government and the implementation of public administration are two ways to overcome corruption in the regions while encouraging innovation. In this context, efforts to strengthen local governments must be in line with corruption prevention instruments by utilizing information and communication technology or ICT. The use of ICT can include e-government systems, e-procurement, and digital financial reporting, which reduce direct interaction and enable real-time monitoring of various public administration transactions (Utami, 2018). E-government, for example, allows the public to access information directly and transparently so that the room for corruption is increasingly narrow. Various countries that have successfully implemented digitalization have shown a significant decrease in corruption cases and an increase in the efficiency of public services (Stranas PK, 2023). Therefore, implementing effective digitalization requires commitment from the central government and local governments to build a system that is transparent and accessible to the broader community (Indonesia Corruption Watch, 2022). With digitalization that is running well, it is hoped that a bureaucracy with more integrity and innovation will be created, which can support sustainable development in the regions.

METHOD

This investigation uses the Normative Law research method, an approach in legal studies that focuses on the normative aspects of law, namely the applicable legal rules or norms, regardless of their application in a social or empirical context. The main objective of this approach is to understand, analyze, and interpret legal rules in the context of a normative system that is formally recognized by the competent authority. Thus, the normative approach emphasizes analysis of legal texts, such as laws, regulations, and doctrines that have been regulated, without involving factors outside the law that may affect their application (Atmadja & Budiartha, 2018). This study will use a qualitative methodology to examine secondary data gathered from primary, secondary, and tertiary legal sources regarding the details provided: 1) Primary legal materials, which are laws and regulations that are legally binding (e.g., the PTPK Law and others); 2) secondary legal materials, which are books, newspapers, journals, draft laws, and other research results that explain primary laws; and 3) tertiary legal materials, which are dictionaries, encyclopedias, and other reference materials that explain and make clear primary and secondary legal materials (Zimmerman, 1977).

As a conceptual basis, this investigation uses several relevant main theories. First, **the Principal-Agent Theory** explains the dynamics between the community (principal) and public officials or local governments (agents) in the governance context. In this relationship, conflicts of interest can arise when agents, who are given the authority to make decisions for the welfare of the public, actually act for personal interests, emphasizing that the imbalance of information and control held by agents creates the potential for abuse of power, which can be controlled through strict monitoring mechanisms, such as digitalization (Zimmerman, 1977).

Second, **the Fraud Triangle Theory** identifies three essential elements that trigger corruption: pressure, opportunity, and rationalization. In the scope of local government, the element of opportunity often arises due to weak control in the bureaucratic system. Digitalization can be an effective solution to close this gap by increasing transparency and accessibility of data, which ultimately reduces the opportunity for agents to commit corruption.

Finally, **Open Systems Theory** emphasizes that organizations are always influenced by their environment and must continuously adapt to remain relevant and responsive to external demands. In this context, local governments act as systems that must be open to the

needs of society for transparency and accountability. Thus, digitalization innovation is considered an adaptive step that allows local governments to improve the quality of governance and prevent corruption through more efficient and measurable processes.

RESULTS AND DISCUSSION
Concept of Implementing Regional Innovation at the Local Government Level

National news often discusses corruption cases that show that bureaucratic reform in Indonesia has not shown significant results. Many bureaucrats are still involved in Corruption, Collusion, and Nepotism (KKN), especially corruption committed by state administrators that further damages the bureaucracy's image and hurts the country, especially local communities, because of the rampant corruption practices at the local government level. One case where a state administrator committed a corruption crime was the case carried out by the former Regional Secretary of Central Bengkulu for the 2017-2018 period with the initials MH for 1.2 years in prison and a fine of IDR 50 million related to the corruption case of the detailed spatial plan RDTR), Then the Director of PT BCL NS and the Supervisory Consultant of PT BCL Kiyai MS were also sentenced to 1.2 years in prison with a fine of IDR 50 million, and the defendant DR as PPATK was sentenced to two years with a fine of IDR 50 million (Mayasari, 2024). In addition, there is another case where the former Head of the Transportation Agency (Kadishub) of Batam City, Riau Islands (Kepri), Rustam Efendi, was sentenced to 4 years in prison by the Tanjungpinang Corruption Court Judge, Rustam was found guilty of a corruption case in the management of recommendations for determining the nature and type of vehicles in 2018, 2019 and 2020   (Rasyad, 2021). Then there was a case where the Mayor of Cimahi, Ajay Muhammad Priatna, was sentenced to 2 years in prison by a panel of judges at the Bandung Corruption Court because he was proven to be corrupt as charged under Article 12 letter a of the Corruption Crime Law for accepting bribes worth Rp 1.6 billion related to the Kasih Bunda Hospital development project (Mayasari, 2024). In addition to these three cases, several others have been added to the record of state administrators who have become corruptors. Based on news published by Kompas.com, it was reported that the KPK successfully conducted a sting operation and ensnared three regional heads suspected of corruption in the goods and services procurement sector during their term of office. The first case highlighted was Rahmat Effendi, Mayor of Bekasi (2018-2022), followed by Abdul Gafur Mas'ud, Regent of Pnajam Paser Utara (2018-2023), and Terbit Rencana Perangin-Angin, Regent of Langkat (2019-2022) (Mayasari, 2024). These cases reported that state administrators in Indonesia still dare to commit corruption even though there are legal regulations regarding corruption by state administrators; as a result of these actions, it can also be seen that innovation in the development of facilities in a region becomes very vulnerable. Corruption rooted in economic crimes and carried out systematically and widely can damage the social and economic rights of the community so that a region cannot progress optimally.

In terms of the nature of innovation, the following categories of policy innovation exist conceptually (Berry, 2023):
1. Policy innovation refers to fresh approaches and programs within policymaking. In policymaking, "innovation" refers to introducing novel approaches and goals. As a result, there has to be innovation in every (public) policy proposal.
2. New approaches to formulating policies mean that innovations impacting the policymaking process are the primary emphasis of this position.
3. Policies encouraging and spreading innovation signify that the relevant policy fosters innovation across different industries.

By looking at the three types of innovation conceptually, it can be seen that the equation of Innovation itself is a renewal for development in various government sectors.

Innovation is an absolute thing in all government sectors, especially for local government, a form of public sector with autonomy in implementing government administration. Increasing value in terms of quality, efficiency, or suitability for government or service purposes makes innovation in local government more complex, especially in preventing criminal acts of corruption in local government.

Law No. 30 of 2014 concerning Government Administration (also known as the Law on Government Administration or UUAP) contains provisions that form the basis of government bureaucracy. These provisions stipulate that government officials must adhere to the General Principles of Good Governance (AAUPB) standards in carrying out their duties. In the concept of a position, there is a great burden of responsibility. Based on these provisions, government officials have many regulatory instruments when carrying out their functions. It should be noted that Article 1 paragraph (6) states that "Regional Government is the implementation of government affairs by the Regional Government and the regional people's representative council according to the principles of autonomy and assistance tasks with the principle of the broadest possible autonomy in the system and principles of the Unitary State of the Republic of Indonesia as referred to in the 1945 Constitution of the Republic of Indonesia. " Then, Law No. 30 of 2014 concerning Government Administration was updated by Law of the Republic of Indonesia Number 6 of 2023 concerning the Stipulation of Government Regulation instead of Law No. 2 of 2022 concerning Job Creation into Law. In the third part regarding regional government, Article 260 paragraph (1) states that "Regions, by their authority, prepare regional development plans as a single unit in the national development planning system in all areas of life which is based on national research and innovation guided by the values of Pancasila."

Regional innovation is also included in Government Regulation (PP) No. 38 of 2017, which is another source on the subject. Through its three primary initiatives, this PP seeks to enhance the efficiency of regional government administration: 1) enhancing government services, empowering citizens, and encouraging community involvement, and 3) boosting regional competitiveness. At the same time, regional innovations in government administration and public services take several forms, all of which are influenced by regional authorities in regional affairs. The following are some of the criteria for what is considered regional innovation: 1) the ability to recreate the innovation or at least some of its components; 2) the creation of benefits for the region or community; 3) the absence of community burdens or restrictions that are not authorized by laws and regulations; 4) the presence of regional government authority; and 5) the ability to replicate the innovation. At the national level, there is the Ministry of Home Affairs' Centre for Research and Development of Regional Innovation. The relevant government agency or unit is responsible for research and development at the regional level. These two levels of government work together to support regional innovation.

According to the Center for Research and Development of Regional Innovation, regional innovation aims to improve government administration's performance through several main programs, namely enhancing public services, empowering communities, and increasing regional competitiveness. This form of innovation includes effective governance, innovation in public services, and regional development by the regional government's authority. The innovation criteria include renewal elements, benefits for the community, compliance with applicable regulations, and the ability to be replicated by other regions (Tan, 2019).

In terms of Use, **PP No. 38 of 2017** concerning Regional Innovation aims to improve the performance of regional governments through innovation in governance, public services, and community empowerment. Although it has been implemented for a long time, its implementation in several regions is still less than optimal, especially in meeting the criteria
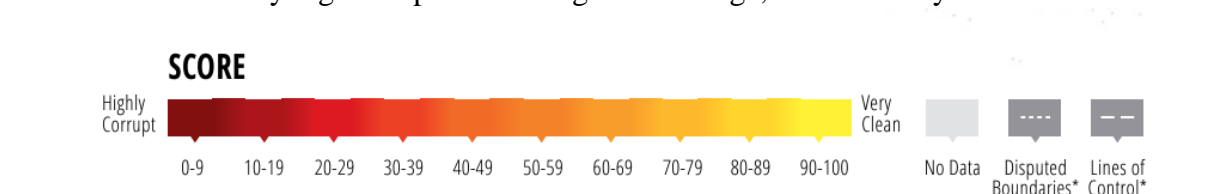
for effectiveness, efficiency, and increasing competitiveness regulated in the initial articles, such as Articles 2 and 3, which stipulate the objectives and principles of regional innovation. As a new concept for regional governments, this PP stipulates that innovation must be based on *specific criteria* such as not causing a conflict of interest, being oriented towards the public interest, transparency, and sustainability. However, challenges remain in its implementation, especially in understanding and implementing *regional innovation trials* (Article 16) as well as *supervision and evaluation* involving independent teams (Articles 7 and 8) (Ministry of State Secretariat, n.d.).

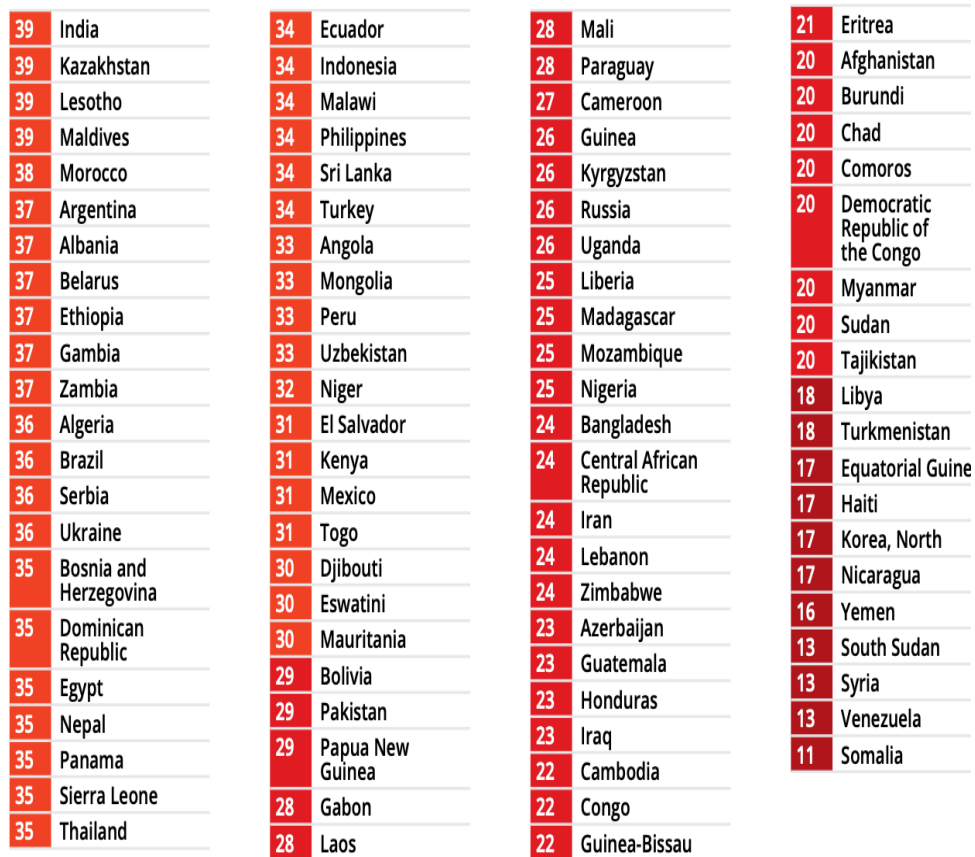**Vulnerability of Regional Innovation Implementation**

It should be noted that Presidential Regulation (Perpres) Number 11 of 2015 concerning the Ministry of Home Affairs (Kemendagri) requires the Ministry of Home Affairs to facilitate the implementation of regional government through the Research and Development Agency (Badan Litbang) of the Ministry of Home Affairs to implement innovation using mentoring, coaching, facilitating, and evaluating local innovation. However, Law No. 23 of 2014 concerning Regional Government (UU PEMDA) outlines the basics of competitiveness, especially excellence in applying regional innovation. Article 27 letter g states that this fosters and grows regional competitiveness; the intention of the regulation is how Regional Heads are required to advance and develop the competitiveness of their regions.

Regarding corruption itself, Article 1 paragraph (2) of Law No. 30 of 2002 concerning the Corruption Eradication Commission explains that "State Administrators are state administrators as referred to in Law No. 28 of 1999 concerning State Administrators who are Clean and Free from Corruption, Collusion, and Nepotism" (Government of the Republic of Indonesia, n.d.-b). In addition, it is also explained in Article 19 paragraph (2) that "the Corruption Eradication Commission can form representatives in provincial areas (Government of the Republic of Indonesia, n.d.-a). By looking at the two articles, it can be seen that it is mandatory to have representatives to eradicate corruption in the regions. In addition, it should be noted that Article 606 paragraph (2) of Law No. 1 of 2023 concerning the Criminal Code, which renews Law No. 20 of 2001 concerning Corruption, which will come into effect in 2026 also explains that "Civil servants or state administrators who receive gifts or promises as referred to in paragraph (1) shall be punished with a maximum imprisonment of 4 (four) years and a maximum fine of category IV. " Thus, the regional government has the right and obligation to carry out an innovation program against criminal acts of corruption against state administrators who are not guided by Pancasila values and have the right to be subject to criminal sanctions with the implementation of the urgency of regulating the application of criminal law in the scope of regional government. However, is the punishment for the corrupt regional government commensurate with the losses due to the corruption?

In Indonesia itself, the practice of bribery and gratification in regional administrators is still common, which has an impact on economic weakness, declining quality of public services and health, and slowing down development. In addition, corruption widens the gap between financial and social disparities. This case shows that the various punishments have not been able to eradicate corruption optimally. *The Corruption Perception Index* (CPI) shows that Indonesia scored 34 on a scale of 0-100. Figure 1. shows that corruption in Indonesia is still very high compared to the global average, which is only 43.

SCORE

Highly Corrupt | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80-89 | 90-100 | Very Clean | No Data | Disputed Boundaries* | Lines of Control*

*The designations employed and the presentation of material on this map follow the UN practice to the best of our knowledge and as of January 2024. They do not imply the expression of any opinion on the part of Transparency International concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitation of its frontiers or boundaries.

39	India	34	Ecuador	28	Mali	21	Eritrea
39	Kazakhstan	34	Indonesia	28	Paraguay	20	Afghanistan
39	Lesotho	34	Malawi	27	Cameroon	20	Burundi
39	Maldives	34	Philippines	26	Guinea	20	Chad
38	Morocco	34	Sri Lanka	26	Kyrgyzstan	20	Comoros
37	Argentina	34	Turkey	26	Russia	20	Democratic Republic of the Congo
37	Albania	33	Angola	26	Uganda		
37	Belarus	33	Mongolia	25	Liberia	20	Myanmar
37	Ethiopia	33	Peru	25	Madagascar	20	Sudan
37	Gambia	33	Uzbekistan	25	Mozambique	20	Tajikistan
37	Zambia	32	Niger	25	Nigeria	18	Libya
36	Algeria	31	El Salvador	24	Bangladesh	18	Turkmenistan
36	Brazil	31	Kenya	24	Central African Republic	17	Equatorial Guine
36	Serbia	31	Mexico			17	Haiti
36	Ukraine	31	Togo	24	Iran	17	Korea, North
35	Bosnia and Herzegovina	30	Djibouti	24	Lebanon	17	Nicaragua
		30	Eswatini	24	Zimbabwe	16	Yemen
35	Dominican Republic	30	Mauritania	23	Azerbaijan	13	South Sudan
		29	Bolivia	23	Guatemala	13	Syria
35	Egypt	29	Pakistan	23	Honduras	13	Venezuela
35	Nepal	29	Papua New Guinea	23	Iraq	11	Somalia
35	Panama			22	Cambodia		
35	Sierra Leone	28	Gabon	22	Congo		
35	Thailand	28	Laos	22	Guinea-Bissau		

Figure 1. Corruption Perceptions Index (CPI) score for Indonesia in 2023 (Indonesia Corruption Watch, 2022)

In general, corruption involves two parties, namely the private sector and state administrators. Actors in both fields are often involved in corruption cases simultaneously, especially in the purchase of goods and services. It is because public officials who manage the country have extensive control over the policies they take, making them passive bribers. Transactional relationships with private parties as active bribers are then linked to this (*Passief Omkoping*). Corruption weakens people's trust in government institutions, creating doubts about their integrity and transparency, which in turn weakens accountability and reduces the effectiveness of government in performing their duties (Sarjito, 2023). The following is a table of the number and presentation of state administrators who commit corruption. :

Table 1. Number and Percentage of State Officials Who Commit Criminal Acts of Corruption

Position	Total	Percentage
Government Employee	365	26.15%
Private	319	22.85%
Village Head	174	12.46%
Ministry/Non- Ministry Government Agency/State Agency Employee	79	5.66%
Village Apparatus	77	5.52%
Legislative	60	4.30%

Source: (Indonesia Corruption Watch, 2022)

The table above illustrates how little corruption has changed compared to previous years in 2022: corruption usually involves two parties: the private sector and local

government employees. Actors in both fields are often involved in corruption cases simultaneously, especially in the purchase of goods and services. This is because public officials who run the country have extensive control over the policies they take, making them passive bribers. Transactional relationships with private parties as active bribers are linked to this (*Passief Omkoping*). Because public officials have abused their power, public accountability will greatly suffer if integrity is not used as a basis for policymaking (Sentanu et al., 2018).

This can be caused by what is stated in Article 389 of the Regional Government Law, which states that in the event of a failed innovation implementation, state civil servants cannot be punished as long as they have met the requirements that have been set to formulate innovation policies. In meeting the requirements for formulating innovation policies, as stipulated in Article 387 of the Regional Government Law, Regional Governments must refer to the principles, namely: 1) Efficiency, 2) Effectiveness, 3) Improving Service Quality, 4) No conflict of interest, 5) For the public interest, 6) Carried out openly, 7) meets the value of propriety, 8) the results can be accounted for, not for personal gain (Ministry of State Secretariat, n.d.). This is what causes regional innovation to be vulnerable to corrupt local governments because the regional administrators are lazy and think so as not to become suspects following Article 389 of the Regional Government Law if the promised innovation does not have the appropriate *output* (CNN Indonesia, 2023). Thus, Indonesia should look at the ways of several other countries dealing with criminal acts of corruption, as will be listed in the following table (Purnama, 2019):

Table 2. Handling of Corruption Crimes in Several Countries

Country	How to eradicate corruption
China	life imprisonment, confiscation of property, or criminal fines, and the recipient of the bribe is held accountable. Not only that, public officials who accept large bribes can be sentenced to prison, even the death penalty.
German	Must return all the corrupted money and serve an average of five years in prison.
United States of America	Corruptors will be sentenced to 5 years in prison plus a fine of US$2 million. Those who fall into serious corruption cases are threatened with a maximum sentence of 20 years in prison.
Vietnamese	The death penalty is often given to state officials or state-owned companies who are proven to have committed corruption.
Malaysia	In 1997, Malaysia finally enacted the Anticorruption Act, which would impose the death penalty for corruption offenders.

The *Indonesia Corruption Watch* (ICW) is a non-governmental organization supervising corruption practices. However, ICW has limitations in conducting comprehensive supervision. Therefore, it is necessary to urgently regulate the scope of the application of criminal law in dealing with the vulnerability of innovation in regional governments to eradicate criminal acts of corruption by regional governments maximally. The issuance of Law No. 1 of 2023 concerning the Criminal Code can be a criminal law reform for regional governments so that they can implement innovation to prevent criminal acts of corruption by

regional governments. Promising regional innovation can be a form of prevention or in the context of immunity against state administrators related to criminal acts of corruption. Therefore, enforcing criminal law and strict punishment against state administrators regarding innovation in a region is appropriate. Thus, if punishment is not carried out maximally against regional governments, the vulnerability of the implementation of Regional Innovation at the regional government level to the corrupt behavior of regional administrators will not improve because regional administrators can consider the punishment given light and the laziness of regional administrators in implementing innovation in the region to avoid punishment.

Minister of State Apparatus Empowerment and Bureaucratic Reform Abdullah Azwar Anas revealed that digitalization in the government administration system is one method to overcome corruption and bribery. With the implementation of digital, the entire service process can be monitored, thus preventing corrupt practices (Stranas PK, 2023). One is GovTech, which will launch a Digital Public Infrastructure (DPI) that integrates digital identity, data exchange, and digital payment systems in public services. Current digital services often face problems such as multiple applications, data repetition, and complicated processes. "With digitalization efforts, government internal supervision can be stronger, and all services are increasingly integrated to reduce the potential for corruption and bribery," said Minister Anas at the launch of the 2023-2024 Corruption Prevention Action. Through the e-catalog platform and other centralized systems, this action allows for higher transparency in the procurement of goods and budget management in various regions, strengthens accountability, and closes loopholes for corrupt practices (Stranas PK, 2023). It should be noted that the Regional Inspectorate launched the PAK SANI Program (Early Anti-Corruption Education). PAK SANI is an innovation of the Regional Inspectorate, which aims to instill an anti-corruption attitude in children from an early age (Jippnas.Menpan.Go.Id, n.d.). In addition, the PKM-VGK Unila Team also created a tool called HiCo that utilizes blockchain technology to detect corruption cases in real-time.

However, digitalization is not without flaws; although there are not as many loopholes for corrupt behavior as in conventional methods, loopholes in digitalization still exist. Recently, the Corruption Eradication Committee (KPK) published an article entitled Study of Corruption Vulnerability Analysis in the Draft Presidential Regulation on Government Procurement of Goods/Services Using the Corruption Risk Assessment Method. In the article, the KPK warned there were problems in compliance, implementation, and administration. Which also contains loopholes for corruption. In this case, the KPK stated that there were vulnerabilities that could occur from the Procurement of Goods and Services system in the Draft of the Second Amendment to Presidential Regulation Number 16 of 2018 concerning Government Procurement of Goods/Services from the Directorate of Development of Strategy and Public Procurement Policy (Dit. PSKPU) dated July 25, 2022.

Examining various innovations that actually exist in several regions reveals effective examples of regional-level initiatives that help prevent corruption and improve governance. One of them is the work of Solok Regency in West Sumatra. Under the leadership of Regent Gamawan Fauzi, Solok introduced the *Yantupin service* or One-Stop Service, which is a breakthrough in public services with better transparency and reducing the potential for abuse of authority. This policy facilitates public access to services, limits loopholes for corruption, and encourages a cleaner and more accountable government (Wahyudi, 2009). then criminal law should apply as *Ius Puniendi* or the state's right to punish if there is a criminal act of corruption by regional administrators or inconsistent innovation promised by the state administrators. This is by remembering that preventive measures against criminal acts of corruption, which are *White Collar Crimes* with the type of *Government Occupational Crime* or crimes committed by or on behalf of the government, namely by improving the legal

system and its law enforcement without discrimination, more firmly punishing criminal convicts and not being easily bribed, instilling anti-corruption principles in daily life, severely punishing corruptors who commit crimes with the maximum prison sentence without being reduced by others, confiscating the assets of corruptors and impoverishing them, ostracizing officials who commit crimes and putting them on the list of despicable people, Maximizing the role of related institutions in preventing and prosecuting corruption (Anti-Corruption Center, 2024).

Considering the Industrial Revolution 4.0, criminalization in Indonesia tends to prioritize prevention and guidance, favoring a more modern approach. Innovation, creativity, and particular strategies with digitalization methods are needed to attract public interest by state administrators in conveying anti-corruption messages, especially severe criminalization of corruption by state administrators through the existence of criminal law in Indonesia. This is by remembering that Innovation can be used as a way or method in overcoming various problems in the implementation of regional government, regional innovation competition activities, and is one way to encourage and cultivate innovation in the implementation of regional government, especially innovation in eradicating corruption committed by regional administrators which can be a setback or destroy the welfare of a region. This investigation has several limitations that may affect the results and its generalization. First, innovation documentation at the regional level is often not comprehensive, and access to regional innovation data is still limited, especially in regions that do not receive innovation awards or formal recognition. Differences in implementation also pose obstacles because policies, budgets, and political support for the implementation of anti-corruption innovations vary in each region, making it difficult to generalize research findings.

In addition, limited infrastructure and technological readiness in some regions limit the effectiveness of digital approaches in combating corruption, especially in areas with low technical uptake. This investigation also focuses on innovation in governance and specific cases, so the results may not explain Indonesia's overall anti-corruption strategy. Finally, the limited literature on criminal behavior in the context of Industry 4.0 makes it difficult to obtain references related to effective digital criminalization. These limitations open up space for further research that can develop a more comprehensive approach to innovation and anti-corruption based on digitalization.

CONCLUSION

Many state administrators still lack innovation in eradicating corruption, and even state administrators themselves are the perpetrators of criminal acts of corruption. It is important to emphasize that the prevention of criminal acts of corruption by regional administrators at the local government level is still very vulnerable. This highlights the need for the right strategy and resource enhancement by local administrators in preventing this cases.

On the other hand, eradicating corruption must require commitment and support from all communities to realize innovations in corruption eradication policies properly. In addition to support from the community, of course, criminal law is needed to punish state administrators who commit corruption to the maximum. Eradicating corruption must be emphasized as a collective work that requires commitment and support from all elements of society.

Innovative steps in public policy that focus on novelty in eradicating corruption are expected to provide real impacts and encourage continuous community participation. Innovation is applied at the policy evaluation stage and from the beginning of planning, implementation, and evaluation. Innovation does not arise because of leadership or crises that force change but from the public management system and knowledge developed by the

government. The success of innovation is measured by the extent to which public policy performance becomes the best solution for society. The synergy between concepts and practices against corruption can be a continuous line in efforts to reconstruct and eradicate corruption. Given the Industrial Revolution 4.0, criminalization in Indonesia, which tends to prioritize prevention and guidance, can take a more modern approach. Thus, innovation, creativity, and particular strategies are needed with digitalization methods.

Concerning the issues of compliance, implementation, and administration in the context of preventing criminal acts of corruption, it is recommended that regulatory changes be made which contain several provisions as follows :

1. Restrictions on the use of Letters/Proof of Order for simple PBJ and with limited value and Providers are required to list the product price as the best price and regulate sanctions for providers who sell at a higher price than other places.
2. Adding a clause to determine Black List Sanctions by Procurement of Goods/Services in Government Procurement Agency (LKPP) for providers whose managers are suspects in corruption cases in PBJ.
3. Adding RO criteria clauses in the form of a Selection method for the first job through tender/selection; regulating similar/similar jobs; maximum time gap of 6 months for RO implementation after the job is completed; work value limit (unit price) is not more expensive than the previous job.
4. Adding the clause "or equivalent" in the mention of brands in procurement methods through E-Purchasing, Fast Tenders and Selection of Domestic Component Level (TKDN) Goods/Services so as not to rule out the possibility or opportunity for alternative products that meet needs.
5. The implementation of the obligation to purchase goods containing TKDN is directed at goods that already have a market share/show competitive value; The price preference for TKDN goods and construction applies to all procurement methods with procurement values that require Self-Estimated Pricing (HPS); Eliminating the exception clause on the obligation to use TKDN goods related to information on goods that have not been produced domestically and the domestic production volume is unable to meet the needs of the Minister of Industry.

Making the provider performance assessment in the SIKAP application (LKPP information system platform for performance evaluation) a mandatory requirement to participate in the implementation of Fast Tender and Direct Appointment; Displaying rating information and adding descriptive commenting features to the SIKAP application; Improving aspects of performance assessment criteria and scores so as not to open up opportunities for prospective providers of Goods/Services with poor performance to be re-selected.

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