

Democracy Crisis and the Rise of Datacracy

Widodo Dwi Putro*

DOI: <https://doi.org/10.22304/pjih.v11n1.a3>

Submitted: June 26, 2023 | Accepted: December 19, 2023

Abstract

There is no permanent constitutional and political-legal system. Scientists also predict that the phenomenon of the rise of datacracy with big data and algorithms will replace the democratic system. In this research, the author aims to answer the following questions: (i) Why is democracy bound to be replaced by datacracy? (ii) what alternative options can be proposed to bridge the legal and political implications that might occur if datacracy replaces democracy? The author uses literature studies and an interdisciplinary approach to critique and offer ideas in this study. It is proposed, among other things, that datacracy will not eliminate people's sovereignty; instead, it will only narrow down democratic instruments such as people's representatives and political parties because they will no longer be needed. Such representative democracy is likely to become obsolete because the people will be able to actively participate in conveying their aspirations directly, without going through the people's representative system, by inputting their needs, interests, and various problems through the datacracy platform.

Keywords: constitutional law, datacracy, democracy.

A. Introduction

The era of democracy has a longer historical implementation than the era of theocracy and monarchy. As a system of government, democracy has existed for thousands of years. It has undergone development and had significant influences throughout history and eventually survives the modern era. Democracy first emerged in ancient cities in Greece, especially in Athens in the 5th century BC, where citizens had the right to participate in political decision-making.¹

The more inclusive and participatory modern democracy began to develop during the Age of Enlightenment in Europe in the 17th and 18th centuries. The United States Revolution in the 18th century and the French Revolution in the late 18th century were important milestones in advancing modern democratic principles, such as people's sovereignty, separation of powers, and human rights.² This aligns

PADJADJARAN Journal of Law Volume 11 Number 1 Year 2024 [ISSN 2460-1543] [e-ISSN 2442-9325]

* Lecturer in Law and Society at the Faculty of Law, University of Mataram Majapahit St., No. 62, Gomong, Selaparang Subdistrict, Mataram City, West Nusa Tenggara, S.H. (University of Mataram), M.Hum. (Brawijaya University), Dr. (University of Indonesia), mengapawidodo@gmail.com.

¹ Arlene W. Saxonhouse, *Free Speech and Democracy in Athens* (Cambridge: Cambridge University Press, 2006), 1–37.

² Todd Landman, "Democracy and Human Rights: Concepts, Measures, and Relationships," *Cogitatio: Politics and Governance* 6, no. 1 (2018): 46, <https://doi.org/10.17645/pag.v6i1.1186>.

with the idea that a hierarchical connection exists between law, democracy, and human rights. Within this hierarchy, the law acts as the fundamental basis for executing democracy, with democracy being the primary cornerstone for upholding and achieving human rights.³

Since then, democracy has become a system of government adopted by many countries worldwide, with forms and implementations that vary depending on the country's respective history, culture, and political context. Francis Fukuyama, in "The End of History and The Last Man," proclaims this age to be "the end point of human ideological evolution and the final form of 'human government'." As there has been a remarkable agreement regarding the consensus and recognition of liberal democracy as a system that is accepted throughout the world.⁴

However, scientists predict that democracy will slowly or quickly die in the 21st century. There has been a growing discourse on datacracy, a techno-political philosophy and constitutional law, which sees technological developments as a necessary pace to surpass and replace democracy in the last ten years. Moreover "death of democracy" appears as the term used to describe a situation in which democratic principles are threatened, eroded, gradually, or rapidly replaced by datacracy. Even though the imagined future order of datacracy is still a utopia, this article will show that contingency can be realized through datacracy which will change the country's political and legal system in the future. These future changes include making the role of political parties and people's representatives redundant because they are no longer needed so there is a potential that their roles to be replaced by artificial intelligence.

"Death of democracy" is the term used to describe a situation in which democratic principles are threatened, eroded, gradually, or rapidly replaced by datacracy. Why do scientists predict democracy will wither and eventually be replaced by datacracy? The author realizes that predicting the change from democracy to datacracy is complex and involves many variables that are difficult to use with accuracy. In this context, the research applied interdisciplinary socio-legal⁵ approaches and methods to analyze the possibility of this change. Those are as follows: (a) A literature review approach as a basis for conducting studies on views and predictions about the crisis of democracy, as well as the future rise of data from the perspective of philosophy, history, politics, and law; (b) From the literature study, the author comments on how the socio-legal approach criticizes changes in constitutional and political law practices in line with technological developments, can provide insight into possible shifts towards the rise of datacracy. The author

³ Ridwan Arifin, "Democracy on Indonesian Legal Reform: How Can People Participate on Laws and Regulations Establishment Process," *Journal of Indonesian Legal Studies* 2, no. 2 (2017): 156, <https://doi.org/10.15294/jils.v2i02.19439>.

⁴ Francis Fukuyama, *The End of History and The Last Man* (New York: Avon Books, 1993), 11.

⁵ Reza Banakar, *Normativity in Legal Sociology Methodological Reflections on Law and Regulation in Late Modernity* (New York: Springer International Publishing, 2015), 27.

analyzes the impact of datacracy, what democratic instruments will be lost and how should citizens' digital rights be strengthened.

B. The Death of Democracy from a Political and Historical Perspective

People have long imagined the death of democracy in spectacular fashion, such as tanks laying siege to a city overnight and troops being sent to seize key communication points, including radio and television stations and the post office. The soldiers circulated a list of dangerous people, who had been arrested and isolated. All of those happened within a few hours. The colonel leading the coup took the president or prime minister hostage and demanded that power be handed over to him as the new legitimate ruler of the country.

Our imaginations are trapped in outdated images such as the failure of democracy in the twentieth-century situation. David Runciman mentioned that we are not going back to the 1930s or 1970s when democracy fell apart because of a military coup. Democracy has transformed from past experiences, and in a country with a mature democracy, a coup that threatens the existence of democracy will not occur easily.⁶ Just as history never goes backwards, democracy, in Runciman's eyes, will never recede. The progress of democracy also means that democracy undergoes evolution. The portrait of the victory of the rulers in the general election, whether we realize it or not, is not a recurring event in which political promises as white lies are effective to become a mainstay in order to occupy the seats of power. Evolution changes everything in life, including democracy, which has undergone morphological changes.

Noreena Hertz claims the cause of "the death of democracy" is global capitalism power. The country's current leaders, said Hertz, were indeed elected by the people in a democratic way, but they were apparently busier "serving" global business players and oligarchs.⁷ Hertz's hypothesis does not mean that the system or mechanism of democracy is dead. They are still there but work only as camouflage. Political parties do not disappear, general elections are still held in the specific period of time. Moreover, the people cheered and rejoiced when the winner of the election was announced. However, behind the scenes is the movement between the capitalists and the parties to make deals with the oligarchs and corporations. The victory of a party, in the end, is the victory of a certain group of oligarchs. Of course, in this case, money politics and "vote shopping"⁸ are the most essential activities. Therefore, democracy has the potential to destroy itself.⁹ In this case, then no matter

⁶ David Runciman, *How Democracy Ends* (London: Profile Books, 2018), 34–114.

⁷ Noreena Hertz, *Silent Takeover and the Death of Democracy* (London: William Heinemann, 2021), 25.

⁸ Vote buying, also referred to as vote shopping, electoral clientelism, and patronage politics is the practice in which political parties or candidates offer money or resources to voters in upcoming elections with the expectation that these voters will cast their ballots in favor of the candidates who offer financial incentives.

⁹ Amalia Syauket, "Money Politics is The Forerunner of Electoral Corruption," *International Journal of Social Service and Research* 8, no. 2 (2022): 711.

how long democracy reigns as a system of government and no matter how many supporters it has, they will not rule out the possibility that a democratic government system may suffer the same fate as other previous government systems, such as a theocratic and a monarchical system of government.

With a more speculative analysis, Yuval Noah Harari in "Homo Deus" imagines that liberal democracy will end, not because of a communist revolution, military coup, manipulation of general election votes, or the rise of the Islamic caliphate system, but due to the rapid development of technology-especially data through big data and algorithms. Harari said that "liberal habits such as democratic elections will become obsolete because Google will be able to represent even my own political opinions better than myself."¹⁰ Harari's view suggests that sooner or later democracy will be replaced by "datacracy" or "data technocracy" due to the advancement of information technology and data analysis that continue to evolve. Government and decision-making will shift from political representation to the use of big data and algorithms to govern and control society.

This assumption is based on the premise that data technology and artificial intelligence will make it possible to collect and analyze large amounts of data about individuals and society as a whole. With in-depth knowledge of human behavior, preferences, and tendencies, this system will be able to make decisions that are more accurate and faster than democratic processes which are sometimes slow and tend to be affected by personal/group interests or volatile public opinion.¹¹ Thus, datacracy is considered more reliable in accommodating public aspirations than entrusting them to people's representatives. Even so, this does not mean that in the future datacracy can become a system of government that does not cause trouble for the people it shelters. As human creations, genealogical datacracy inherits some of the tendencies of its creator, in fact, these data do not have the ability to decide about appropriateness of something like humans who are still able to determine what they deem appropriate and unsuitable, good or bad.

In simpler terms, datacracy, which can be directly translated as "governing or organizing with data," involves a system of government in which decision-making and policy support rely on the performance of algorithms and various data analyses.¹² Thus, datacracy is closely related to artificial intelligence, because artificial intelligence itself is a set of algorithms that can modify its algorithms and create new algorithms in response to input and learned data. The "learned" data then operates with a "trigger"¹³ system. The essence of "intelligence" lies in the

¹⁰ Yuval Noah Harari, *Homo Deus: A Brief History of Tomorrow* (Canada: HarperCollins Publisher, 2015), 337.

¹¹ Luiz Guilherme Antunes, "The Datacracy Threat of Smart Cities," *South American Development Society Journal* 7, no. 20 (2022): 12, <http://dx.doi.org/10.24325/issn.2446-5763.v7i20p1-18>.

¹² Derrick de Kerckhove, "Three Looming Figures of the Digital Transformation," *New Exploration: Studies in Culture & Communication* 1, no. 1 (2020): 13.

¹³ Triggers represent a form of automation triggered by predefined events that take place after a particular activity occurs within the application.

capacity to evolve and adapt in response to new data. A mature artificial intelligence system resembles a complex gear system with three interconnected components: data processing, machine learning, and business operations. It can function autonomously, requiring no human intervention.

Data are generated, modified, and transferred without the need for data engineers, while business activities are executed without operators or agents. The system perpetually learns from the accumulated data and past business operations, leading to continuous improvement in its performance over time. Data-driven societies are managed by algorithms that, through crowdsourced technologies¹⁴ and biometric recognition systems, can measure the best outcomes for society as a whole. Together with big data, the data collected is used to assess the participation of each citizen or to collect city-wide data as a means to turn it into a transparent platform that can be viewed by the public.¹⁵

C. Transformation of Democracy to Datacracy from a Philosophical Perspective

We need to uncover the "mystical" aspect of the representative system in a democracy: how do leaders and representatives of the people acquire their authority in a democratic state? This authority, of course, comes from the electorate's vote, from the right of citizens to elect the leader and their representatives. However, why do citizens have a voice or suffrage? Why do people who have suffrage choose to vote for certain leaders and representatives of the people? We almost never ask this question because it is considered so self-evident.¹⁶

Democracy gets its legitimacy set off from individual self-knowledge thesis. All this time, the one who knows best about who I am, what I need, and my interests is myself. Likewise, you are the one who knows best about yourself. We know best what our needs and interests are. However, in a complex society, the direct participation of all citizens in political decision-making becomes impractical. Especially in the context of Indonesia, which covers a large territory and has a large population, the process of direct democracy tends to be expensive, and agreements for decision-making take a very long time to make. On the other hand, representative democracy allows citizens to choose representatives who are considered to represent their views and interests.¹⁷ This type of democracy was greeted with enthusiasm by many thinkers, among them John Stuart Mill (1806-1873), one of the leading liberal thinkers, put forward the idea of representative democracy in his works, including "On Liberty" and "Considerations on Representative Government".

¹⁴ Triggers represent a form of automation triggered by predefined events that take place after a particular activity occurs within the application.

¹⁵ Laura Del Vecchio, "Datacracy: Using Data to Manage Urban Dynamics," accessed on September 4, 2023, https://cities.envisioning.io/?pg=scene_DQrDMfNtr9ffS7gxD.

¹⁶ Rika Kurniaty, "The Right to Democracy Arrangement Under International Law," *Rechtidee* 14, no. 2 (2019): 295, <https://doi.org/10.21107/ri.v14i2.6248>.

¹⁷ Steven Blockmans and Sophia Russack, *Representative Democracy in the EU* (London: Rowman & Littlefield International, Ltd, 2019), 9.

He argues that representative democracy is the best form of government to protect individual freedoms and realize public interests.¹⁸ Alexis de Tocqueville (1805-1859) in his monumental work "Democracy in America" analyzed the United States political system and expressed his views on representative democracy. He regards representative democracy as a mechanism that allows broad political participation and avoids the tyranny of the majority.¹⁹ Robert A. Dahl (1915-2014), an American political scientist, played an essential role in the development of the theory of representative democracy, in his works, such as "Polyarchy" and "Democracy and Its Critics" he emphasizes the importance of representation, participation, and competition politics in a representative democracy.²⁰ Another American political scientist who developed a theory about political representation and men, Hanna Pitkin (1931-2023), investigates the various dimensions and challenges of representing the interests of the people effectively in a representative democratic system in his well-known work, "The Concept of Representation".²¹

So far, democracy has been synonymous with promises of freedom, prosperity, and good government. Society from time to time trying to remain optimistic to view democracy as the system that providing equality in voicing opinions and participating in politics. That is why the democratic system is considered superior to other political and constitutional law systems, such as theocracy and monarchy. In a democratic system, theoretically, everyone has the same right to vote and be elected, one person at a time, it doesn't matter whether he is a political party leader, a scientist, a meatball seller, or a fried food seller, they all have the same rights and opportunities. The pros of democracy, despite there is a large gap of knowledge between law professors and illiterate people about the condition of countries, their voices are still the same. In essence, everyone has the same rights and position before the law and government (equality before the law). Everyone is supposed to elect the candidate for leader and representative of the people who is closest to the ideal value, or at least it is believed to be able to bring direct improvement to the electorate. That way, the representation system in democracy is considered to be good for everyone. Democracy is considered to bring civilization to a better direction. Optimism is encouraging Indonesian people in an orderly and hopeful manner, through democratic procedures, have elected tens of thousands of political elites who promise changes toward prosperity and justice. However, people's expectations are far from reality, a prosperous life is only a mirage. The promises that are often just a means to achieve the campaign goal to the seat of power, so that when the goal is achieved, the promise is abandoned.

¹⁸ John Stuart Mill, *Considerations on Representative Government* (London: Parker, Son, and Bourn, West Strand, 1861), 70.; John Stuart Mill, *On Liberty* (Ontario: Batoche Books Limited, 1859), 8.

¹⁹ Alexis de Tocqueville, *Democracy in America* (Pennsylvania: The Pennsylvania State University, 2002), 239.

²⁰ Robert A. Dahl, *Polyarchy* (London: Yale University Press, 1972), 2–8.; Robert A. Dahl, *Democracy and Its Critics* (CT: Yale University Press, 1989), 225–231.

²¹ Hanna Fenichel Pitkin, *The Concept of Representation* (London: University of California Press, 1967), 209–240.

There is a gap between the ideals of democracy and reality, for one thing, democracy does not reduce social inequality.²² In fact, in the era of democracy, the gap has even widened because wealth has accumulated in a handful of oligarchs.²³ It is ironic that the purpose of democracy is for every citizen's interests to be properly accommodated. The democratic mechanism gives every citizen voting rights which can be channelled into institutions, both the executive and the legislature that represent the people's voice. Even democracy guarantees freedom for the poor to scream loudly to get the attention of policymakers, but democracy does not guarantee the realization of prosperity or eradicate poverty. Why did it happen? Because those who represent the voice of the people (President, Parliament members, Governors, Mayors/Regents) often have their own interests beyond the interests of those represented. The legislative members' task is to listen to and convey the people's aspirations and to be convened to make a decision for the common good. In reality, there are many missing links between the legislative and the people, which undermine the definition and meaning of democracy.

One example of a missing link between democracy, people's representatives, and people's aspirations is the product of legislators often different from people's aspirations. In Indonesia, despite being demonstrated by mass, legislators are unmoved in enacting various laws (*Undang-Undang*) that only benefit the oligarchs and their cronies such as the Job Creation Law (*Undang-Undang Cipta Kerja*), the Mineral and Coal Mining Law, the Water Resources Law, the Investment Law, and Amendment Law on Corruption Eradication Commission.²⁴ It is as if the building, the palace where the representatives of the people take shelter are soundproofed from the voice of the people whose diverse views are expected to be able to help finalize a decision, especially regarding policies, laws of which the people are the objects. The decrees of a law which often glorify "By the Grace of God Almighty" become merely a platform for nominating God (*nominatio dei*) in the state, no longer invoking God (*invocatio dei*)²⁵ in the state as it should be. It does not rule out the possibility that the nomination or mention of God which colors various products of the rulers is nothing but a *modus operandi* for the interests of the rulers to be "protected" properly, considering that religion, policy or law, knowledge is the best means for hidden interests to be accepted for their continuity. The situation is inseparable from the fallacy in the basic proposition which states that humans know best about what is best for them. Likewise, the principle of representation in democracy is no longer

²² Jan-Werner Müller, *Democracy Rules: Democracy Rules* (New York: Farrar, Straus and Giroux, 2021), 43.

²³ Jeffrey A. Winters, *Oligarchy* (New York: Cambridge University Press, 2011), 139–193.; Jeffrey A. Winters, "Oligarchy and Democracy in Indonesia," *Indonesia* 96 (2013): 11–33, <https://doi.org/10.5728/indonesia.96.0099>.

²⁴ Fajar Shodiq Ramadlan, "Kemunduran Demokrasi dan Kebebasan Pers di Asia Tenggara: Refleksi dari Enam Negara," *Jurnal Penelitian Politik* 18, no. 2 (2021): 144, <https://doi.org/10.14203/jpp.v18i2.1028>.

²⁵ *Invocatio Dei* is the invocation of God in a legal text. The mention of God in another context is called *Nominatio Dei*. The difference between the two is that *Nominatio Dei* is limited to the mention of God in the legal text, while *Invocatio Dei* makes divinity the foundation of state and law.

relevant. Those elected are no longer representatives of truth delegated by their voters, but politicians who are more busy enriching themselves than fighting for the interests of their constituents. This is the problem of presentation (the people)-representation (representatives), not to mention the majoritarianism, those who belong to the main group whose right to make decisions can affect the society as a whole. David Bouchier in his article entitled "Illiberal Democracy in Indonesia: The ideology of the Family State" views that "deliberation consensus" is another translation for "democracy as the will of the majority".²⁶

If the people's representatives "take off" leaving the people they represent on the "runaway", then the people's representatives will be abandoned by their people. The indicator for this can be seen from the increasing number of Abstentions.²⁷ Joseph Schumpeter (1883-1950) in his book "Capitalism, Socialism, and Democracy" expressed his critical thinking about representative democracy with his theory of "elite democracy". He argues that in a representative democracy, elite groups play an essential role in making political decisions, while mass participation tends to be limited.²⁸ If during the 19th and 20th centuries, people still believed that they are who knows themselves the best, then the technology of the 21st century undermined the claim. AI, massive data, and algorithms know a person better than himself, so the belief in individual self-knowledge collapses. With the collapse of individual claims to self-knowledge, so does the claim to representation (representative systems) of democratic government and the reason for the necessity of democracy. Democratic instruments that have been relied upon as mechanisms to absorb and fight for the aspirations of the people constitutionally are no longer needed because they have been replaced by dataism which is the integration between big-data and biology.

D. Dataism Works in "Augmented Reality"

"Dataism" is a term introduced by Harari, referring to the view that data and algorithms will become the dominant entity and replace the role of humans in political, legal, and economic decision-making. In the context of data-driven policy-making, for example, developed countries like the United States have introduced numerous data-focused initiatives, utilizing data for enhancing healthcare, optimizing public transportation, and fortifying cybersecurity. Furthermore, the U.S. federal government maintains an open data portal offering access to diverse government data. Similarly, the United Kingdom is actively deploying public data platforms and open initiatives, alongside investments in digital technology to boost

²⁶ Ben Kristian Citto Laksana, "An Indonesian Democracy: Limits of a Majoritarian Democracy," *Jurnal Ilmiah Hubungan Internasional* 12, no. 2 (2016): 139, <https://doi.org/10.26593/jihi.v12i2.2649.133-142>.

²⁷ Suwardi and Azis Budiyo, "Abstentions Phenomenon (Golput) of Local Elections," *Jurnal Bina Praja* 12, no. 2 (2020): 204, <https://doi.org/10.21787/jbp.12.2020.203-212>; Ketut Andita Pratidina Lestari, "Semakin Meningkatnya Presentase Golput Khususnya di Kala Pandemi, Hak Golput Bagi Rakyat Menurut Perspektif Hukum dan HAM", *Ganesha Civic Education Journal* 3, no. 2 (2021): 42.

²⁸ Joseph Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper & Brothers, 1942), 269.

public engagement in the decision-making procedures.²⁹ Conversely, countries such as Singapore and Estonia have effectively incorporated big data strategies to enhance their governance frameworks. They have harnessed data analytics to streamline public transportation, healthcare, and even tax collection. In these instances, data isn't merely an adjunct but serves as the foundational element for shaping and executing laws and policies. In terms of legal decision-making, it can be seen that predictive analytics data and algorithms can help advocates in legal decision-making, specifically in anticipating and planning for future legal outcomes. By using algorithms to analyze past legal cases, predictive analytics can accurately predict the chances of success or failure in a particular case. While in terms of decision-making in economics, the role of data can be seen in the data collected from 109 Czech manufacturing companies, and partial least squares structural equation modeling is applied to analyze the data. The results show that BDA (Big Data Analytics) and BI&A (Business Intelligence and Analytics) capabilities are positively related to decision-making quality. This effect will be stronger when manufacturers utilize data-driven insights.

At the same time, the Indonesian government has initiated the utilization of data for crafting public policies. The data gathered and analyzed are instrumental in comprehending community requirements, strategizing development initiatives, and assessing the effectiveness of government projects. Additionally, the government has instituted the National Cyber and Crypto Agency (*Badan Siber dan Sandi Negara-BSSN*) to supervise cybersecurity and the management of government data. While Indonesia may still be trailing some other nations in this regard, the Indonesian government has made investments in bolstering information and communication technology (ICT) infrastructure to enhance technology accessibility, encompassing the expansion of internet and connectivity in rural regions.³⁰

Harari said "the most interesting emerging religion is Dataism, which venerates neither gods nor man – it worships data."³¹ In short, dataism in Harari's view is about what he calls "a shift in authority" which was originally voters' feelings or consciences as the highest source of authority in a democracy. Datacracy is one of the breakthroughs in government systems that rely on the use of big-data, which is then processed by artificial intelligence which can produce integrated and comprehensive decisions with minimal decision-making errors. The advantages of datacracy or dataism involve the collection and analysis of large amounts of data (volume), diversity of data (variety), a high degree of accuracy (veracity), speed in generating data, accessing data and processing data (velocity), as well as producing valuable

²⁹ Katherine Dommet, Andrew Barclay, and Rachel Gibson, "Just What Is Data-Driven Campaigning? A Systematic Review," *Information, Communication & Society* 27, no. 4 (2022): 1–22, <https://doi.org/10.1080/1369118X.2023.2166794>.

³⁰ Eko Eddy Supriyanto and Jumadil Saputra, "Big Data and Artificial Intelligence in Policy Making: A Mini-Review Approach," *International Journal of Advances in Social Sciences and Humanities* 1, no. 2 (2022): 58–65, <https://doi.org/10.56225/ijassh.v1i2.40>.

³¹ Harari, *Homo Deus: A Brief History of Tomorrow*, 213.

information (value) to make a legal decision and policy.³² Particularly through the algorithms employed by social media platforms and the integration of data across various platforms, individuals can amass a wide range of data, encompassing personal histories and individual opinions. Consolidating this data within a single, centralized system has the potential to diminish the dynamics of the current political representation and can serve as a reinforcing argument for the representation system's paradox. A pertinent example is social media, where virtually anyone can voice their viewpoints and even articulate their expectations from the government. Consequently, social media may indirectly supplant the traditional model of political representation with a novel concept known as resonance.³³ Datacracy allows decision-making to be based on solid and objective data evidence rather than on speculation or subjective opinions. By using this system, legal and public policy decisions are sourced from data so as to avoid personal, conflict of interest, bias or decisions made based on wrong perceptions.

Datacracy plays an important role in informing public policy and accurate practice in various fields, including health, education, environment, law, economics, and others. Robust data and the deep analysis can help identify the most effective interventions, measure the impact of existing policies, and correct inefficient practices. Datacracy provides a solid foundation for developing law and public policy that is sustainable and data-driven.³⁴ In datacracy, raw data is processed and analyzed using information and communication technology to understand people's needs and preferences, and enable smarter, faster, and more accurate decision-making. Here are some common steps in processing raw data to implementation in datacracy:³⁵

1. Data collection: raw data is collected from various sources, such as social media platforms, sensors, surveys, and other databases. Careful and thorough data collection is important to ensure the accuracy and reliability of the information analyzed.
2. Data processing: once the data has been collected and categorized, the next step is to process it using data analysis algorithms. This process includes the use of

³² Christopher Lee Adamczyk, "Communcating Dataism," *Review of Communication* 23, no. 1 (2023): 4, <https://doi.org/10.1080/15358593.2022.2099230>.

³³ Resonance referring to Hartmut Rosa's thought is defined as the quality of human relationship with the world. The term resonance is taken from physics to describe the subject-object relationship as a vibrating system in which both parties stimulate each other. The relational capabilities of the subject and its intersubjective structure are shaped by the experience of resonance or its absence. (Read: Embun Tabitha Suswandari, "Call for Commentary] Datacracy: A New Style of Representational and Totalitarian Systems?," accessed on October 15, 2023, <https://digitalsociety.id/2023/04/11/call-for-commentary-datacracy-a-new-style-of-representational-and-totalitarian-systems/>).

³⁴ Christopher Lee Adamczyk, "Communcating Dataism," 6.

³⁵ Philip Boucher, "Artificial Intelligence: How Does It Work, Why Does It Matter, and What Can We Do about It?" (Study, Panel for the Future of Science and Technology, European Parliamentary Research Service, 2020). Read also: The Upwork Team, "How Does AI Work? Fundamentals and Step-by-Step Process," accessed on October 15, 2023, <https://www.upwork.com/resources/how-does-ai-work>.

data mining techniques, statistical analysis, and machine learning to identify patterns, trends, and insights that can be useful to decision makers.

3. Data visualization: data visualization is an important step in the datacracy process. Graphs, charts, maps, and other data visualizations are used to present information in an easy-to-understand and engaging way, allowing stakeholders to quickly grasp key findings.
4. Analysis and interpretation: the processed data is then analyzed to identify significant patterns or trends. The results of the analysis are then interpreted to gain insights that can be used in making better decisions.
5. Formulation of laws and policies to implementation of decisions: the results of the analysis are used to formulate laws and policies and the necessary actions or implementation. The implementation of these laws and policies then enables the government to provide more effective and responsive solutions to the problems or needs identified by the datacracy.

E. The Strengths and Weaknesses of Datacracy

Although the rise of datacracy and dataism is amazing, of course, it still raises a number of questions, for example, does datacracy tend to focus on quantifiable data? Can complex human dimensions such as cultural values, ethical judgments, and emotions be encompassed by datacracy? We also need to critically question the ethical and privacy implications of using data in political, legal, and economic decision-making. What are the risks of data manipulation and security? In an era where personal data is highly valued, there is a risk of data manipulation and leakage that could jeopardize individual privacy and security. Misuse of data or cyberattacks can affect the integrity and trust in datacracy systems.³⁶

The invitation to question critically can be done by dialoguing between the positive and negative sides of the datacracy itself. The positive side of datacracy can be seen from Mathematician Cathy O'Neil challenges the notion that technology and data are always objective and neutral. O'Neil called for the need to critically examine the algorithms used in important decision-making and demanded transparency, accountability, and protection of human rights in the use of data and algorithms, their impact on social inequality, and the dangers to democracy.³⁷ However, the downside, O'Neil explains how these algorithms are often based on biased and inaccurate data, and reinforce pre-existing prejudices and injustices in society. O'Neil also examines privacy concerns and the power wielded by large technology companies that collect and exploit user data.³⁸

³⁶ Ioannis Syllaidopoulos, "Dataism: The Rise of Data Driven World? A Guide for Data-oriented Policy and Management," *International Journal of Multidisciplinary Research and Analysis* 6, no. 3 (2023): 977, 10.47191/ijmra/v6-i3-16.

³⁷ Cathy O'Neil, *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (New York: Crown Books, 2016), 184.

³⁸ Cathy O'Neil, 145.

Another negative side of datacracy was stated by Shoshana Zuboff warned about the dangers of "surveillance capitalism" to describe the dominant economic logic in the digital era. Giant digital companies extract and monetize huge amounts of personal data for their own benefit. These companies use surveillance technologies, such as tracking tools, data mining, and advanced analytics, to extract behavioral insights and shape human behavior for economic gain.³⁹ Zuboff examines the impact of "control capitalism" on various aspects of society, including individual privacy, democracy, and human autonomy. He raised concerns about the erosion of privacy rights and the concentration of power in the hands of a few technology companies. Ultimately, this "surveillance capitalism" poses a threat to the democratic process, as it can manipulate public opinion and influence political outcomes through targeted advertising and personalized content.⁴⁰ Moreover, the internet world has now become an "augmented reality"⁴¹. Datacracy also reads conversations and social interactions of community members in the realm of "augmented reality" so that datacracy is also a reflection of the behavior of community members. We must have received an advertisement on a device that suddenly appeared as soon as we talked about it. Is the gadget eavesdropping on our conversation? It could be. The obvious thing is our devices collect data from all kinds of activities that we do in the realm of "augmented reality". The information about goods, songs, movies that we search for on the internet generate data that is processed by an algorithm and produces the right profile for us. Algorithms can ultimately know about us better than we know ourselves.

However, it must also be recognized that the positive side of the rise of datacracy on the one hand is indeed encouraging because datacracy can produce decisions that are more rational and formulate better solutions than decisions taken by politicians bound by deals with oligarchs. On the other hand, the rise is also worrying, especially because digital platforms and big data until now dominated by digital oligarchs.⁴² The fear of digital platforms and data monopoly by a handful of digital oligarchs is justified. For example, Big Tech Companies in the United States such as Apple, Amazon, Facebook, Google (Alphabet), and Microsoft have significant dominance in the digital technology and application industries. They control multiple platforms and services, including operating systems, search engines, social media, e-commerce, and more. Meanwhile, in China, Baidu is the leading search engine and Alibaba, Tencent (BAT) is the largest e-commerce company in the country. Tencent is the company that operates WeChat, one of China's largest communication and

³⁹ Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York: Hachette Book Group, 2019), 65–69.

⁴⁰ Shoshana Zuboff, 65–69.

⁴¹ Augmented reality is a technology that combines two-dimensional and three-dimensional virtual objects into a three-dimensional real environment, and then projects these virtual objects in real-time. Unlike virtual reality which completely replaces reality, augmented reality merely adds to or complements reality.

⁴² Digital oligarchs refer to oligarchs (large, prominent corporations) who consolidate power by monopolizing control over technology.

social media platforms. These three companies have a strong influence on the digital application ecosystem in China.⁴³ Social media companies such as Facebook, which owns the platforms Facebook, Instagram, and WhatsApp have a significant global influence on social media.

In addition, companies such as Twitter, Snapchat, and LinkedIn also have an important role to play in the digital application ecosystem. E-commerce companies such as Amazon, Alibaba, and eBay control e-commerce which has a dominant influence in e-commerce and digital applications.⁴⁴ Recently, OpenAI, an AI research and development company based in San Francisco, California, United States, with one of its ChatGPT products which is capable of conversing with users like human chat, can share songs, programming codes, and various information.⁴⁵ The non-profit research company driven by Peter Thiel, Elon Musk, Reid Hoffman, Marc Benioff, Sam Altman, and others recently surprised the public from various circles who are both amazed and cynical about how language representation allows computers to generate long random sentences with grammatical structures similar to that in the body of a particular text. Basically these linguistic models are nothing but Google's prognostic text on a large scale.⁴⁶ From this perspective, the influence of these influential digital oligarchs can be potentially detrimental. Their immense access to user data can lead to potential misuse for various objectives, ranging from targeted advertising to product development. This was exemplified in the 2018 Cambridge Analytica scandal, where the personal data of millions of Facebook users was obtained without consent and used for political advertising.⁴⁷

F. How the Law Should Respond to the Rise of Datacracy

In the digital era, data can be everywhere without being limited by national borders. Starting from macro data about demography, politics, and economy, to microdata such as information on our bodies, brains, DNA, interests, and hobbies. Currently, it is not the state that controls the big data, but giant corporations, and digital oligarchs whose number is no more than 10 people. The contemporary problem no longer dwells on the size of the land and territory it controls, but rather the data it controls.

⁴³ Longmei Zhang and Sally Chen, "China's Digital Economy: Opportunity and Risks," (IMF Working Paper International Monetary Fund, 2019), 7.

⁴⁴ Saad Nazir, Alan Eisner, and Helaine Korn, "Alibaba Group: Rivals At The Gate," *Global Journal of Business Pedagogy* 4, no. 1 (2020): 63.

⁴⁵ A. Shaji George, Hovan George, dan A.S. Gabrio Martin, "A Review of ChatGPT AI's Impact on Several Business Sectors," *Partner Universal International Innovation Journal* 1, no. 1 (2023): 9–10, <https://doi.org/10.5281/zenodo.7644359>.

⁴⁶ David Mhlanga, "The Value of OpenAI and Chat GPT for the Current Learning Environments and the Potential Future Uses," *SSRN Electronic Journal* (2023): 7, <https://doi.org/10.2139/ssrn.4439267>.

⁴⁷ Johan Steyn, "JOHAN STEYN: Digital Oligarchy — Concentrated Tech Power Imperils Our Future," accessed on October 15, 2023, <https://www.businesslive.co.za/bd/opinion/columnists/2023-09-20-johan-steyn-digital-oligarchy--concentrated-tech-power-imperils-our-future/>. Read also: Andrea Coveri, Claudio Cozza, and Dario Guarascio, "Monopoly Capitalism in the Digital Era," (Laboratory of Economics and Management, Intitute of Economics Scuola Superiore Sant' Anna, 2021), 1–27.

The situation is dangerous if the data is controlled by corporations that are not elected by the people and are not responsible to the people.

At least, there are two figures behind the digital platform. First, the "data controller" is an individual or legal entity (can be a company or non-profit organization), public authority, agency, or other body which alone or together with other people has the purpose, conditions, and means of processing personal data. In other words, the controller owns the data and sets the rules for how the data is collected and processed. Accordingly, the controller maintains records of all processing activity and further designates one or more data processors that may, on behalf of the data controller, collect and process the data. Second, the "data processor" operates only on behalf of the data controller. The data processor is generally a third party outside the company. However, in the case of business groups, one business may act as a processor of another business. The data processor's duties to the data controller must be specified in a contract or other legal action. For example, the contract must indicate what happens to personal data after the contract is terminated. The typical activity of data processors is to offer information technology solutions, including cloud storage. A data processor may only subcontract part of its work to another processor or appoint a co-processor when it has received prior written authorization from the data controller.⁴⁸ The issue arises when entrusted data cannot be adequately safeguarded, as evidenced by instances of data breaches and leaks involving user information. This vulnerability is a drawback of a data-driven system dominated by a single entity or a small group that possesses ownership, oversight, and control. This underscores the necessity for legislation that can effectively protect the digital rights of users.

Many countries are considering new regulations or adapting the existing ones to address emerging issues regarding data use and protection, cybersecurity, protection of privacy rights, and controlling digital power. Even several countries are strengthening their legal frameworks in terms of data protection and privacy rights, as well as digital policies. For example, the European Union has implemented the General Data Protection Regulation (GDPR) which protects the privacy and data rights of its citizens. The GDPR recognizes several principles in data protection: (1) lawfulness, fairness, and transparency. The reason for collecting data needs to be established as a legal basis; The fairness principle applies which means that data should be handled in a way that people reasonably expect. This includes how the data has been collected; All process involved needs to be transparent, for example about what data is collected, for what purpose, for whom, and for how long it is stored. This information needs to be written as clearly as possible in language that is easy to understand. For more information, see the section on individual rights (2) Purpose limitations: personal data will be collected for specified, explicit, and lawful purposes and cannot be further processed in a manner inconsistent with those

⁴⁸ European Public Service Union, "The General Data Protection Regulation (GDPR)" (An EPSU Briefing, 2016), 7.

purposes, at least one of the stated reasons for data collection must be met in order to be allowed to start the data processing. (3) Data minimization: personal data must be adequate, relevant and limited to what is necessary, (4) Accuracy: data must be accurate and continuously updated. There is an obligation on the data controller to proactively ensure the accuracy of the data and if anything is inaccurate, incorrect or misleading, then the data controllers must delete or correct it without delay, (5) Storage limitations: personal data must be stored for a certain period of time and no longer than necessary. When the purpose for which data is stored is no longer relevant or has expired, the data should be deleted or anonymized. (6) Integrity and confidentiality: personal data must be kept secure. Appropriate steps need to be taken to ensure data security, including protection against unauthorized or unlawful processing, and against accidental loss, destruction, or damage. (7) Accountability: the principle of accountability makes the data controller responsible and therefore accountable for complying with the GDPR, implementing all necessary measures, such as implementing a privacy management framework.⁴⁹

While in the Indonesian context – learning from other countries – it is impossible for the country to make its own regulations in the midst of melting national boundaries due to the development of technological globalization without the agreement of the international community.⁵⁰ At this point, new international conventions are needed as a basis for changes in international law to anticipate and keep up with the development of digital technology and dataism.

We really need to weigh the pros and cons of datacracy, ensuring it does not escape the domination of conventional oligarchs and fall into digital oligarchy. Which route we choose and what the political system and constitutional law of the future will look like, is up to us to determine and adapt to the times. Is it possible that in the future the country will be able to develop *digital platforms, big data, machine learning, data mining* as instruments that support datacracy? At present, datacracy cannot completely replace a democratic regime, its function is still limited as a tool in governance. Sooner or later the future contingencies of the political system and constitutional law will change, with implications for amendments to the constitution and changes to the constitutional structure.⁵¹

Today the “Country” of Facebookistan, for example, has a “population” of more than 2.2 billion. Not to mention Instagram, YouTube, WhatsApp, and Twitter with the number of “population” which also cannot be ignored and continues to grow. This is a virtual world or “country” filled with billions of netizens.⁵²

⁴⁹ European Public Service Union, “The General Data Protection Regulation (GDPR),” 10–12.

⁵⁰ Regina Becker (et.al.), “Applying GDPR Roles and Responsibilities to Scientific Data Sharing,” *International Data Privacy Law* 12, no. 3 (2022): 207–208, <https://doi.org/10.1093/idpl/ipac011>.

⁵¹ Xiaolong Zheng (et. al.), “Donald J. Trump’s Presidency in Cyberspace: A Case Study of Social Perception and Social Influence in Digital Oligarchy Era,” *IEEE Transactions on Computational Social Systems* 8, no. 2 (2021): 279–280, 10.1109/TCSS.2021.3063167.

⁵² Anupam Chander, “Facebookistan,” *North Carolina Law Review* 90, no. 5 (2012): 1817–1819.

Civil society participation in the datacracy era becomes indispensable as they play a role in controlling the use of data. Civil society can set up independent bodies tasked with overseeing the use of data by governments, companies, and other organizations. The civil society organization conducts audits, investigations, and monitoring to ensure government and company compliance with policies, ethical standards, and laws relating to the use of data.⁵³ Consequently, the longstanding issue of the disparity between presentation and representation in democracy can potentially be resolved by the transparency provided by datacracy, thanks to the insights gained from performance data and algorithms, as elaborated earlier. Datacracy emerges as a new paradigm that emphasizes the importance of data in providing better insights, predictions, and decision-making. Sophisticated data and algorithms can be used to analyze individual preferences and behavior in detail. In extreme scenarios, datacracy may involve active citizen participation and collective decision-making.

For the Indonesian context, if datacracy replaces democracy, which part of the constitution will be amended? Democratic principles such as people's sovereignty (for example, in the context of the Indonesian constitution, Article 1 Paragraph (2) of the 1945 Constitution) must of course be maintained. Strengthening the quality of people's sovereignty in the datacracy era, digital rights should be accommodated in the constitution and spelled out in law. In fact, the quality of people's sovereignty in the datacracy era was strengthened by accommodating digital rights in the constitution and spelled out in laws. These digital rights, for example: (a) The right to protection and security: the right to have adequate protection against digital security threats, such as cyberattacks, identity theft, or data leaks; (b) The right to transparency: the right to know how our personal data is collected, used and managed by a company or organization; (c) The right to delete data: the right to request deletion or deletion of personal data that is no longer relevant or deletion of data needed by a company or organization; (d) Right of control: the right to have control over personal data, including the right to determine the use and purpose of that data; (e) The right to digital justice: the right to receive fair and equal treatment in the digital world, without race, gender, religion or other personal characteristics based discrimination; (f) Internet access rights: The right to access the internet without unlawful restrictions, as well as the right to affordable and reliable access; (g) Right to anonymity: The right to remain anonymous or de-identified when using the internet, except as required in certain legal cases.

In addition to these digital rights, the rights of indigenous peoples who reject digital technology are also respected and protected by not building an internet network system in indigenous peoples' areas. Until now, the *Baduy Dalam* community still adheres to customary law by not violating various taboos, such as

⁵³ Lembaga Studi & Advokasi Masyarakat, "Teknologi & HAM," accessed on June 7, 2023, <https://www.elsam.or.id/teknologi-dan-ham>.

using electronic devices, riding in vehicles, bathing with soap, and wearing footwear. The exposure of pictures of the *Baduy Dalam* area on Google Maps "hurts" the *Baduy Dalam* customs because taking pictures on customary land is prohibited by customary law.⁵⁴

Other "revolutionary" contingencies from datacracy are dismantling democratic instruments such as people's representatives and political parties because they are no longer needed. People's representatives are not needed because citizens can actively participate by conveying their aspirations directly by inputting their needs, interests and various problems they face through digital-based platform that datacracy offers. Datacracy will process and produce political, legal, economic policies and decisions (including the distribution of welfare). Those data are processed to produce an output that can be a common good and can be accepted by the whole community in terms of political, legal, economic policies and decisions (including the distribution of welfare).

Democracy runs based on people's rights, while datacracy works based on truth because the source is data collected from a lot of people. Since the data is derived from citizen activity and behaviour pattern, then if the community wants to amend laws and policies, community members must change their daily activities and behavior. Changes in the activities and behavior of community members will change the data. Because laws and policies are data-based, changes to that data will automatically amend laws and policies. The question may arise, does datacracy reading conversations and social interactions of citizens in the realm of 'augmented reality' violate the right to privacy? If only a few people hacked by artificial intelligence, of course it becomes a matter of violation of privacy rights. But in this context, all conversations and social interactions of citizens, without exception, in the realm of 'augmented reality' are read by artificial intelligence so that everyone is basically equal in the datacracy. At this point, we imagine that datacracy in the future will no longer be controlled by digital oligarchs, but will become public property and be accountable to the public. Protection of personal data is still guaranteed because artificial intelligence has reached the stage of artificial "super" intelligence so that it is no longer dependent on the role of the humans behind the artificial intelligence program.⁵⁵

G. Datacracy as a Solution

In the datacracy context, decision-making is based on the big data collected, processed, and analyzed. If the policies produced by the data are judged to be unfair, we can evaluate and improve the datacracy platform program why the policies produced by the data are so different from the aspirations of the people, so that in the end the data is working closely to "perfect".

⁵⁴ Puun is adat community of *Baduy Dalam* Refuse Internet Signals in Their Area, June 7, 2023.

⁵⁵ Karamjit S. Gill, "Artificial Super Intelligence: Beyond Rhetoric," *AI & Soc* 31 (2016): 138, <https://doi.org/10.1007/s00146-016-0651-x>.

Datacracy is not only centered and sourced from human aspirations, but also considered ecological "aspirations". For example, data with sophisticated algorithms and big data reads the phenomenon of climate change, which is marked by an increase in global temperatures. Datacracy reads, measures, records, and accurately predicts how climate change will have far-reaching impacts, including extreme weather events such as heat waves, prolonged droughts, severe floods, and tropical storms. The melting of ice at the poles and glaciers causes sea level rise which threatens small islands, rob and abrasion, are also recorded accurately by datacracy. In fact, it can predict the possibility of some species to come to extinction.⁵⁶ Datacracy uses big data and machine learning approaches to analyze and predict climate change. With a very large amount of data available and with a high speed and level of accuracy so as to be able to anticipate ecological changes. By leveraging machine learning algorithms, large climate data can be analyzed to identify complex patterns and relationships that are not apparent manually. Since datacracy is not only able to read ecological data that is currently happening, but is also able to predict future ecological changes so as to produce laws and policies that are friendly to the environment.⁵⁷

Ideally, datacracy is the latest breakthrough towards a transparent and accountable digital government. It can be a powerful tool to minimize corruption. The principle that data can be accessed by the public and the ability to provide real-time information can minimize abuse of power and potential for corruption. From the start, corruption can be prevented as early as possible. Datacracy can be a model for preventing corruption with the power of data that can be accessed by the public.⁵⁸

In fact, if later datacracy uses artificial intelligence that reaches the stage of impersonal "super" artificial intelligence, it becomes the subject, then the bureaucracy in datacracy will no longer be too complex and corrupt. Artificial intelligence has no desire to fatten accounts or enrich itself. It seems logical to assume that artificial intelligence will be able to make better policies than the governments of politicians produced by pseudo-democracies. Datacracy will eventually be able to become a governance system that is managed impersonally without individuals or groups of leaders, entirely based on artificial intelligence based on big data that is collected from citizens' aspirations through digital platforms, as well as a description of all community activities.

⁵⁶ Kunio Kaiho, "Relationship Between Extinction Magnitude and Climate Change During Major Marine/Terrestrial Animal Crises," *Biogeosciences Discussions* 19, no. 14 (2022): 3376, <https://doi.org/10.5194/bg-19-3369-2022>, 2022.

⁵⁷ Mihai-Sorin Stupariu et al., "Machine Learning In Landscape Ecological Analysis: A Review of Recent Approaches," *Landsc Ecol* 37 (2022): 1228–1129, [https://doi.org/10.1007/s10980-021-01366-9\(0123456789\(\).,-volV\)\(01234567](https://doi.org/10.1007/s10980-021-01366-9(0123456789().,-volV)(01234567).

⁵⁸ Nils Köbis, Christopher Starke, and Iyad Rahwan, "The Promise and Perils of Using Artificial Intelligence to Fight Corruption," *Nature Machine Intelligence* 4, no. 5 (2022): 418–419, <https://doi.org/10.1038/s42256-022-00489-1>.

If all this time political affairs, governance and constitutional law in a democratic system are troublesome and incur high costs, such as for organizing political parties, campaign costs, large salaries for people's representatives who sit in parliament, then in datacracy it is simpler and cheaper. Datacracy works just like Google Maps show the best and fastest routes to the user's destinations.⁵⁹ The author imagines if all political, legal, and welfare redistribution matters can be taken care of by datacracy, the digital rights of citizens are fulfilled, then humans can really enjoy life as humans in a utopian world: philosophizing while drinking coffee in the morning, do gardening or swimming on the beach, writing poetry or painting in the afternoon, and singing while hanging out at night.

H. Conclusion

Democracy is experiencing a serious crisis, in addition to being caused by a prolonged missing link between people's representatives and people's aspirations which has led to a decrease in the level of people's trust in the democratic system. In this era of disruption, the presence of big data and algorithms repairs these various missing links with datacracy.

The rise of datacracy on the one hand is encouraging because datacracy can produce decisions that are more rational and formulate more accurate solutions than decisions made by politicians who are busy taking care of their own interests. On the other hand, the rise of datacracy is also worrying, especially because digital platforms and big data until now dominated by digital oligarchs. Solving this dilemma, the author tries to provide an anticipatory offer, among which the constitution maintains the principle of people's sovereignty. Civil society's participation in the datacracy era is strengthened so that it is able to control the use of data by governments, companies, and other organizations. In a more concrete realm, it is necessary to expand citizens' digital rights such as the right to protection and security, the right to transparency, the right to delete personal data, the right to control their data, the right to digital justice, the right to internet access, to the right to anonymity. Including the right to reject the internet network system for certain indigenous peoples in their customary territory.

The contingencies resulting from the rise of datacracy are that sooner or later democratic instruments such as people's representatives and political parties will no longer be needed. They are not needed because citizens can actively participate by conveying their aspirations directly by inputting their needs, interests, and various problems they face through the datacracy platform. Datacracy will process and produce political, legal, ecology, and economic policies and decisions, including the distribution of welfare.

⁵⁹ Hila Mehr, "Artificial Intelligence for Citizen Services and Government," (Harvard Ash Center Technology & Democracy Fellow, 2017), 4–5.

References

Books

- Banakar, Reza. *Normativity in Legal Sociology Methodological Reflections on Law and Regulation in Late Modernity*. New York: Springer International Publishing, 2015.
- Blockmans, Steven and Sophia Russack. *Representative Democracy in the EU*. London: Rowman & Littlefield International, Ltd, 2019.
- Dahl, Robert A. *Polyarchy*. London: Yale University Press, 1972.
- _____. *Democracy and Its Critics*. Connecticut: Yale University Press, 1989.
- Fukuyama, Francis. *The End of History and The Last Man*. New York: Avon Books, 1993.
- Harari, Yuval Noah. *Homo Deus: A Brief History of Tomorrow*. Canada: HarperCollins Publisher, 2015.
- Hertz, Noreena. *Silent Takeover and the Death of Democracy*. London: William Heinemann, 2021.
- Mill, John Stuart. *On Liberty*. Ontario: Batoche Books Limited, 1859.
- _____. *Considerations on Representative Government*. London: Parker, Son, and Bourn, West Strand, 1861.
- Müller, Jan-Werner. *Democracy Rules: Democracy Rules*. New York: Farrar, Straus and Giroux, 2021.
- O'Neil, Cathy. *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. New York: Crown Books, 2016.
- Pitkin, Hanna Fenichel. *The Concept of Representation*. London: University of California Press, 1967.
- Runciman, David. *How Democracy Ends*. London: Profile Books, 2018.
- Saxonhouse, Arlene W. *Free Speech and Democracy in Athens*. Cambridge: Cambridge University Press, 2006.
- Schumpeter, Joseph. *Capitalism, Socialism, and Democracy*. New York: Harper & Brothers, 1942.
- Tocquville, Alexis de. *Democracy in America*. Pennsylvania: The Pennsylvania State University, 2002.
- Winters, Jeffrey A. *Oligarchy*. New York: Cambridge University Press, 2011.
- Zuboff, Shoshana. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: Hachette Book Group, 2019.

Other Documents

- Adamczyk, Christopher Lee. "Communicating Dataism." *Review of Communication* 23, no. 1 (2023): 1–17. <https://doi.org/10.1080/15358593.2022.2099230>.
- Antunes, Luiz Guilherme. "The Datacracy Threat of Smart Cities." *South American Development Society Journal* 7, no. 20 (2022): 1-18. <http://dx.doi.org/10.24325/issn.2446-5763.v7i20p1-18>.

- Arifin, Ridwan. "Democracy on Indonesian Legal Reform: How Can People Participate on Laws and Regulations Establishment Process." *Journal of Indonesian Legal Studies* 2, no. 2 (2017): 155–158. <https://doi.org/10.15294/jils.v2i02.19439>.
- Becker, Regina (et.al.) "Applying GDPR Roles and Responsibilities to Scientific Data Sharing." *International Data Privacy Law* 12, no. 3 (2022): 207-209. <https://doi.org/10.1093/idpl/ipac011>.
- Boucher, Philip. "Artificial Intelligence: How Does It Work, Why Does It Matter, and What Can We Do about It?" (Study Panel for the Future of Science and Technology, European Parliamentary Research Service, 2020).
- Chander, Anupam. "Facebookistan." *North Carolina Law Review* 90, no. 5 (2012): 1808–1844S.
- Coveri, Andrea. Claudio Cozza, and Dario Guarascio. "Monopoly Capitalism in the Digital Era." (Laboratory of Economics and Management, Intitute of Economics Scuola Superiore Sant' Anna, 2021), 1–27.
- Del Vecchio, Laura. "Datacracy: Using Data to Manage Urban Dynamics." Accessed on September 4, 2023. https://cities.envisioning.io/?pg=scene_DQrDMfNtr9ffS7gxD.
- Dommet, Katherine, Andrew Barclay, and Rachel Gibson. "Just What is Data-Driven Campaigning? A Systematic Review." *Information, Communication & Society* 27, no. 4 (2022): 1–22. <https://doi.org/10.1080/1369118X.2023.2166794>.
- European Public Service Union, "The General Data Protection Regulation (GDPR)." (An EPSU Briefing, 2016).
- George, A. Shaji, Hovan George, and A.S. Gabrio Martin. "A Review of ChatGPT AI's Impact on Several Business Sectors." *Partner Universal International Innovation Journal* 1, no. 1 (2023): 9-23. <https://doi.org/10.5281/zenodo.7644359>.
- Gill, Karamjit S. "Artificial Super Intelligence: Beyond Rhetoric." *AI & Soc* 31 (2016): 137–143. <https://doi.org/10.1007/s00146-016-0651-x>.
- Kaiho, Kunio. "Relationship Between Extinction Magnitude and Climate Change During Major Marine /Terrestrial Animal Crises." *Biogeosciences Discussions* 19, no. 14 (2022): 3369–3380. <https://doi.org/10.5194/bg-19-3369-2022>, 2022.
- Kerckhove, Derrick de. "Three Looming Figures of the Digital Transformation." *New Exploration: Studies in Culture & Communication* 1, no. 1 (2020): 1–18.
- Köbis, Nils, Christopher Starke, and Iyad Rahwan. "The Promise and Perils of Using Artificial Intelligence to Fight Corruption." *Nature Machine Intelligence* 4, no. 5 (2022): 418–424. <https://doi.org/10.1038/s42256-022-00489-1>.
- Kurniaty, Rika. "The Right to Democracy Arrangement Under International Law." *RechtIdee* 14, no. 2 (2019): 288-300. <https://doi.org/10.21107/ri.v14i2.6248.g3932>.
- Laksana, Ben Kristian Citto. "An Indonesian Democracy: Limits of a Majoritarian Democracy." *Jurnal Ilmiah Hubungan Internasional* 12, no. 2 (2016): 133–142. <https://doi.org/10.26593/jihi.v12i2.2649.133-142>.

- Landman, Todd. "Democracy and Human Rights: Concepts, Measures, and Relationships." *Cogitatio: Politics and Governance* 6, no. 1 (2018): 48-59. <https://doi.org/10.17645/pag.v6i1.11F86>.
- Lembaga Studi & Advokasi Masyarakat. "Teknologi & HAM." Accessed on June 7, 2023. <https://www.elsam.or.id/teknologi-dan-ham>.
- Mehr, Hila. "Artificial Intelligence for Citizen Services and Government." (Harvard Ash Center Technology & Democracy Fellow, 2017).
- Mhlanga, David. "The Value of OpenAI and Chat GPT for the Current Learning Environments and the Potential Future Uses." *SSRN Electronic Journal* (2023): 1-16. <https://doi.org/10.2139/ssrn.4439267>.
- Nazir, Saad, Alan Eisner, and Helaine Korn. "Alibaba Group: Rivals at The Gate." *Global Journal of Business Pedagogy* 4, no. 1 (2020): 22-28.
- Ramadhan, Fajar Shodiq. "Kemunduran Demokrasi dan Kebebasan Pers di Asia Tenggara: Refleksi Dari Enam Negara." *Jurnal Penelitian Politik* 18, no. 2 (2021): 141-157. <https://doi.org/10.14203/jpp.v18i2.1028>.
- Steyn, Johan. "JOHAN STEYN: Digital Oligarchy — Concentrated Tech Power Imperils Our Future." Accessed on October 15. <https://www.businesslive.co.za/bd/opinion/columnists/2023-09-20-johan-steyn-digital-oligarchy--concentrated-tech-power-imperils-our-future/>.
- Stupariu, Mihai-Sorin (et.al.) "Machine Learning in Landscape Ecological Analysis: A Review of Recent Approaches." *Landsc Ecol* 37 (2022): 1227–12250. [https://doi.org/10.1007/s10980-021-01366-9\(0123456789\(\).,-volV\)\(01234567](https://doi.org/10.1007/s10980-021-01366-9(0123456789().,-volV)(01234567).
- Supriyanto, Eko Eddy, and Jumadil Saputra. "Big Data and Artificial Intelligence in Policy Making: A Mini-Review Approach." *International Journal of Advances in Social Sciences and Humanities* 1, no. 2 (2022): 58–65. <https://doi.org/10.56225/ijassh.v1i2.40>.
- Suswandari, Embun Tabitha. "[Call for Commentary] Datacracy: A New Style of Representational and Totalitarian Systems?" Accessed on October 15, 2023. <https://digitalsociety.id/2023/04/11/call-for-commentary-datacracy-a-new-style-of-representational-and-totalitarian-systems/>.
- Suwardi, and Azis Budiyo. "Abstentions Phenomenon (Golput) of Local Elections." *Jurnal Bina Praja* 12, no. 2 (2020): 203-212. <https://doi.org/10.21787/jbp.12.2020.203-212>.
- Syauket, Amalia. "Money Politics is the Forerunner of Electoral Corruption." *International Journal of Social Service and Research* 8, no. 2 (2022): 711-721. <https://doi.org/10.46799/ijssr.v2i8.152>.
- Syllaidopoulos, Ioannis. "Dataism: The Rise of Data-Driven World? A Guide for Data-Oriented Policy and Management." *International Journal of Multidisciplinary Research and Analysis* 6, no. 3 (2023): 977-982. <http://dx.doi.org/10.47191/ijmra/v6-i3-16>.

- The Upwork Team. "How Does AI Work? Fundamentals and Step-by-Step Process." Accessed on October 15, 2023. <https://www.upwork.com/resources/how-does-ai-work>.
- Zhang, Longmei and Sally Chen. "China's Digital Economy: Opportunity and Risks." (IMF Working Paper International Monetary Fund, 2019).
- Zheng, Xiaolong (et.al.) "Donald J. Trump's Presidency in Cyberspace: A Case Study of Social Perception and Social Influence in Digital Oligarchy Era." *IEEE Transactions on Computational Social Systems* 8, no. 2 (2021): 279-293. <http://dx.doi.org/10.1109/TCSS.2021.3063167>.