Future Prospects of Governance and Democracy Using Artificial Intelligence

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Abstract

Artificial intelligence is shaping the future of politics through a digital political revolution. In this context, we look at the impact of artificial intelligence on democracy in terms of freedom, equality, and political action. Artificial intelligence has a positive aspect of expanding the realm of human freedom through citizen's political participation, the spread of digital liberalism, and the improvement of human capabilities. On the other hand, artificial intelligence violates individual freedom by depriving human spirit, intuition, free will, and autonomy by replacing human self-improvement, human authority with algorithms, and labor with robots. Artificial intelligence is more likely to fall into the trap of digital dictatorship by falling into dataism as it focuses on procedural democracy rather than substantive democracy. Algorithms tune the human mind and emotions to create an Orwellian monitor that continuously observes every individual. Algorithms are likely to give control to a small elite, and new forms of authoritarian control will emerge. AI governance is based on whether citizens will actively participate in politics to overcome the problems of modern representative democracy and restore democracy, or go to digital totalitarianism by a group of data elites. In order to achieve a new alternative political system beyond digital dictatorship, civil society must secure the right to control data, and human authority must not be replaced by data authority.

Keywords
Artificial intelligence, AI, deep learning, Governance and Democracy

1. Introduction
The 4th industrial revolution is expected to bring about a new form of society, and this industrial revolution leads to a digital political revolution and shows a drastic paradigm shift in the realm of government and politics. In particular, with the development of artificial intelligence, data science and algorithms have begun to materialize in each field of policy making and politics. These developments have changed human-centered political activities and decision-making processes, creating an environment in which artificial intelligence intervenes and contributes to policy and politics.

Artificial intelligence is being applied to various policy areas from tasks such as data collection, classification, translation, and preparation of public documents in public and private service areas. It is artificial intelligence that rationally makes social and political decisions by integrating information such as national laws, existing policies, news and SNS.

This study aims to explore how democracy will change when the use of artificial intelligence is in full swing. We will review previous studies on the concept of artificial intelligence and artificial intelligence governance, and the relationship between artificial intelligence and democracy. And by looking at the impact of artificial intelligence on democratic freedom, equality, and political activity, will algorithmic democracy, the future political landscape, overcome the limitations of representative and deliberative democracy and promote democracy? or will it lead to a

retreat of democracy by inducing new forms of authority and governance? We will discuss the political implications of artificial intelligence.

2. Body
2.1 Consideration of AI governance
Artificial intelligence governance is a new way to act as an institutional system that affects human social, economic, and political life by using artificial intelligence as a key actor in the value judgment and decision-making process. Artificial intelligence is being applied to core social systems beyond convenient services, and how to establish an artificial intelligence decision-making system and responsibility so that artificial intelligence and national functions can be effectively linked to complete the strategic goals of an organization or country?

A method of promoting collaborative decision-making and politics, which is based on coexistence with machines as human beings cooperate with artificial intelligence, broadening the scope of citizen participation and making with machines for politics tailored to the needs and needs of citizens. means The subject of artificial intelligence governance consists of artificial intelligence systems, public officials, politicians, corporations, civic groups, and citizens. Anyone can access AI programs and directly discuss important national and regional agendas, and ordinary citizens tend to be excluded from existing representative politics or administrative systems. In representative democracy, only representation is emphasized, and politics together is not properly realized. In artificial intelligence governance, agendas that cannot be dealt with in current representative politics can be directly changed.

The characteristics of artificial intelligence are technology and algorithms. (Hoang 2017) Technology is not a person directly dealing with technology, but creating a technology that can handle technology, and an algorithm is an algorithm that creates an algorithm like machine learning. As this kind of AI governance develops, humans become farther away from work and activities, and artificial intelligence recognizes data and makes decisions rapidly. The trend towards replacing government by humans with government by machines intensifies. (Hoang 2017).

The development of artificial intelligence is changing from the existing e-government to intelligent government. (Hoang 2017) E-Government is to move government documents, services, offices, etc. to cyberspace to make government activities online. All elements of government operation are digitized, and intelligent government is the concrete application of data and knowledge accumulated in cyberspace to real space. In order to make correct decisions, intelligent government learns data and knowledge in cyberspace and uses them in physical space. It can be called online, digitalization, and process innovation. It can be said that it is a characteristic of government. Figure 1 shows e-government and intelligent government.
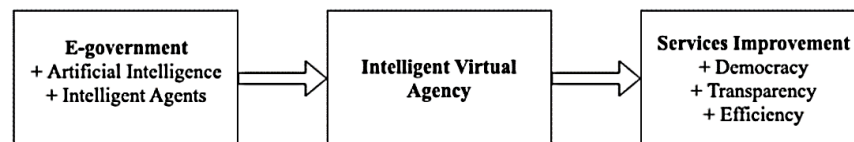

Figure 1. Shows e-Government and Intelligent Government

Methods that can be used in the political realm of artificial intelligence are possible in two aspects, such as policy intelligence and public service intelligence.

1) Policy intelligence is a function that supports artificial intelligence to make correct decisions in political activities. Policy intelligence can be specified in four types: descriptive, diagnostic, predictive, and prescriptive (Hoang 2017). Descriptive intelligence is the ability to grasp in real time what is happening in the current political situation. Diagnostic information is to analyze the cause of why this happened, and it will be of great value in various crisis situations such as finance, environment, and medical, enhancing the ability of politics to respond to crises. Predictive information can identify future political trends and problems in advance by predicting what will happen in the future. Thus, data-based future forecasting will become commonplace prior to various political actions by lowering information search and acquisition costs and forecasting costs. Prescriptive information is related to how to respond, and evidence-based politics can be realized in specific political actions through simulation.

2) Public service intelligence is a function in which artificial intelligence supports citizens' decision-making in the realm of politics and satisfies citizens' needs through robots for politicians' political services. In order for artificial intelligence to enhance democratic decision-making ability in the political realm, data such as public data and social data, political analysis algorithms that can derive political meaning from various data, and information sharing among stakeholders and collective intelligence can be derived. Civic networks need to function properly (Hoang 2017). Politicians must share the various intelligence resources possessed by intelligent government with citizens so that citizens can make the right decisions. In addition, politicians can handle political civil complaints through interactive services through artificial intelligence, automatically generate documents and business information such as parliamentary information reports, and use artificial intelligence to review various laws and regulations.

2.2 The Impact of AI Governance on Democracy

The positive aspects of artificial intelligence for human freedom can be divided into structural aspects, accessibility, and human capabilities. In terms of structure, artificial intelligence forms a third governance and enables the convergence of the government and the private sector, so that citizens can actively solve policy activities or social problems.(Hoang 2017) Artificial intelligence can also change social structures from networks to platform organizations.(Hoang 2017) Platform organizations connect organizations together and greatly enhance problem-solving capabilities by sharing the same platform. In the past, individual platforms such as traffic signal controllers and subway operation were operated separately, but artificial intelligence increases the connection between them and improves collective learning ability. Artificial intelligence promotes the freedom to escape bad or hateful problems by oriented toward collaboration between governments, citizens, and businesses through structural changes such as platform organization and third-party governance.

Artificial intelligence expands information accessibility, allowing citizens to enjoy the right to know, realizing individual digital liberalism. Digital liberalism, in which anyone can easily, cheaply and freely access information, allows citizens to actively collect information necessary for decision-making without interference from state power. Information accessibility contributes to citizens' participation in the decision-making process and securing transparency in the decision-making process.

AI enhances human capabilities, expanding the realm of human freedom to do things without restrictions. (Lee and Janna 2017) Today's society lives in a flood of information, and excessive information creates problems in rational communication and decision-making, not through information diversity, but through information overload. However, artificial intelligence helps humans collect and classify vast amounts of information, helping them make rational decisions. By clearly categorizing information according to human needs, artificial intelligence provides real-time decision-making and a variety of insights that humans have not seen. In addition, AI's decision-making is based on recent and vast information, so it can maintain more consistency than human decision-making that relies on emotions and intuition. Despite these evaluations, there are many negative views on the freedom of artificial intelligence. The negative aspects of the freedom of artificial intelligence can be approached by dividing them into technological determinism, philosophical, and economic aspects. The ideology of AI governance is deeply related to the technological determinism perspective. Technological determinism is the position that technology has its own development logic and is a major factor in social change, and considers technology neutrality and technology-centered thinking. (Son and Moon 2016).

In AI governance, everything is measured and quantified into zeros and ones. The state of the human mind, emotions, work, work, activity, etc. are all recorded. In artificial intelligence governance, the quantified ego, which is self-recognition through numbers, becomes the dominant mode, banishing the mind, intuition, free will, and ego from human knowledge.

The philosophical view of the end of freedom by algorithms is strongly advocated by Harari .(Harari 2018) According to Harari, the authority of big data algorithms sanctifies data and algorithms more than human freedom, jeopardizing the foundation of liberalism for individual feeling and free choice.

From an economic point of view, if algorithms are more efficient and more productive than humans, it will greatly undermine liberalism. (Dan 2017) In liberalism, which values personal freedom and human life, algorithm-based automation replaces many human jobs, and unemployment is likely to occur. Economic presence, such as unemployment, has no choice but to limit individual freedom and opportunities of human beings. In addition, artificial intelligence governance widens the social and economic gap between ordinary workers, the unemployed and a small

number of capitalists who own artificial intelligence. When a few elites and capitalists monopolize the products of economic activity, liberalism is bound to decline. Transitional politics, in which capital decides everything, may emerge as the influence of a few societies monopolized power increases.

Liberal politics is threatened if algorithms have the right to act on behalf of humans in this decision-making and autonomy. Predictive modeling by data and algorithms undermines humanity and renders human judgment obsolete. It achieves the goal of machine learning and deep learning, which are attributes of algorithms, and has a centralized structure for efficiency, enables centralized control, and has limitations in continuously developing diversity and new creativity.

Equality is a core concept of democracy and an important social value. Fundamental equality means that all individuals are completely equal in character, dignity, worth and fundamental rights, and that all people have equal basic rights that no one can violate. (Lee 2019).

Artificial intelligence claims to make society more equal, and when it plays an important role in decision-making, it makes fair decisions by collecting more objective information and making judgments than humans (World Economic Forum, 2017). This basis is because it is considered that there are prejudices and biases in human judgment and decision-making, and that human decision-making is significantly influenced by emotional and intuitive reflection. Pointing out the impulsive and biased judgments of human judges, he argued for the arbitrary nature of judgments in the modern judicial system. (CIO 2018) Algorithm-based automated rulings are not perfect, but they argue that personal bias can be excluded as much as possible, seeing that they make more consistent decisions than human judges. Those who claim that artificial intelligence deepens inequality believe that the algorithm itself of artificial intelligence has inherent bias. (Lee and Janna 2017) Algorithm programmers or code writers have no choice but to reflect their own views and values when creating algorithms, even if they try to maintain objectivity and neutrality. The data bundle itself that produces the results of the algorithm is also biased, and the data itself is incomplete because it cannot contain everything in people's lives or reflect all of the various experiences. I see that biased programmers and biased data have no choice but to discriminate against someone with biased judgment. In a 2016 machine bias article, ProPublica, an American investigative news outlet, evaluated an artificial intelligence algorithm that inferred the recidivism rate through facial images of ex-convicts. (ZDNet 2018). Racial and social biases are more prominent in predictive policing. (World Economic Forum, 2017).

Artificial intelligence can further deepen women's inequality, because wrong data and prejudice against women are reflected in machine learning and deep learning for algorithm operation. Programmers are mostly male, so male-centered culture and norms permeate them, and wrong perceptions and images of women as weak, gentle, and in need of protection may be reflected. (Hayasaki, 2017).

AI algorithms can deepen social discrimination and division. (Lee and Janna 2017) An algorithm-driven future widens the gap between the digitally savvy and the non-digitally savvy, and the ability to engage in digital life is far from universal. Digital devices change very quickly, participation in the digital world is expensive and complex, and learning about digital devices and related content can be difficult in some cases.

AI creates unemployment and deepens economic inequality (Lee and Janna 2017). Autonomous vehicles and the automation of industrial systems are having a devastating impact on many workplaces, leading to job loss. A variety of tasks and projects supported by AI will show more work and productivity with fewer people. Skill-biased technological change caused by artificial intelligence-based automation causes an increase in demand for high-skilled labor and a rapid decrease in demand for low-skilled labor, resulting in income inequality between high-skilled and low-skilled workers (Jung 2017).

It was argued that prejudice and biased algorithms promote complaints and threaten democracy, making them as dangerous as weapons of mass destruction (National Information Society Agency 2018). Worsening inequality destroys the foundation of trust and empathy among citizens, and causes citizens to develop distrust and cynical attitude toward democratic institutions. This distrust and cynicism makes it difficult to participate in the political process, and their non-participation leads to the weakening of democracy. If inequality continues to grow, a small elite with access to political power could take the lead. In the end, inequality is likely to fall into a vicious circle that continues to weaken democracy rather than promote it.

AI governance means the automation of political activities, policy establishment and policy execution, and algorithmic democracy in which artificial intelligence leads the political process is manifested. Data politics refers to constructing a new politics through personal data accumulation. Data politics occurs with the formation of a system that creates new value from personal data by appropriating or exploiting it. In other words, data strategy becomes the most important political means in data politics (Kim Sang-min, 2016).

Algorithmic democracy will automatically manage all political activities of politicians and ordinary citizens. All records are stored on a central server of the central government or an agreed-upon governance organization, and are evaluated by algorithms based on the activities they do (Kim 2016). In artificial intelligence governance, citizens are constantly providing information or subjects of data rather than becoming the subject of politics. Under algorithmic democracy, autonomy, the normative foundation of democracy, is greatly undermined. As AI decides everything, the procedural and functional aspects of democracy are emphasized.

Algorithmic democracy is likely to distort the balance of power in the electoral process. Artificial intelligence will wield a significant influence in public discussions and political agendas. When certain groups dominate AI, they have more opportunities to influence public debate than those who do not. Artificial intelligence can exert political influence from election campaigns to personal emotions through surveillance of voters. Big data algorithms predict the election results by identifying each political tendency before voters do. Voters are informed in advance before voting, and fake news or various forms of biased election campaigns and election advertisements are used.

Data algorithms do not require political participation such as communication, discussion, and agreement between individuals by automating the optimized model through accumulated data. This process can be a threat to the democratic process as the deliberation process, which is the core of democracy and gives legitimacy to the acquisition of power, disappears.

3. Conclusion

Artificial intelligence governance can present a bright digital future through data transparency and efficient prediction through various information, but the dark digital future caused by algorithmic governance is more prominent. Algorithmic democracy plays a greater role as an institutional device for obtaining power through voting than the normative aspect of democracy or the practical meaning of democracy. The acquisition of power and the emphasis on procedural aspects will accelerate the programmation of politics and make politics automatable. Such automation will more easily delegate political issues and social debates to algorithms rather than to human intellects, value judgments, and social consultations. With the development of algorithms, the axis of political power will be transferred to artificial intelligence from humans centered on citizens. In addition, artificial intelligence will pollute political activities and the election environment by illegally collecting data, manipulating public opinion, and influencing elections and voting in various ways, destroying trust in public institutions and trust in free and fair elections.

AI governance is the reality of complex systems, the demand for a sustainable society, and the request to overcome the crisis of capitalism. It will continue to develop in tandem with citizens' personalized desires. A government that controls algorithms can control human minds and emotions, make people love themselves and hate their enemies, and citizens cannot resist the regime. If algorithms are concentrated in a small elite class, a new type of authoritative governance structure will be formed because the general public cannot escape the elite's influence.

In order to achieve a new alternative political system, there must be a way to strengthen social power, such as civil society and community, over data power under human control, without human authority being replaced by data authority. As a way to strengthen social power, two aspects, institutional and individual, should be considered. First, an artificial intelligence-based algorithmic democracy platform is institutionally established, and by using artificial intelligence technology, citizens can make decisions directly or realize ideas for solving social problems in policies. Second, a strategy for coexistence between artificial intelligence and human beings is needed to protect human dignity by maintaining individual autonomy and free will at the individual level. The biggest problem in artificial intelligence governance is to hand over the quantified ego and human decision-making power that self-recognizes through 0 and 1. To solve this problem, it is to improve the ability and judgment to be able to control the algorithm and interpret the output produced by the algorithm. Education and institutionalization that can cultivate the ability to derive appropriate implications for the results produced by humans and artificial intelligence must be centered on citizens, and future politics will ultimately be driven by data and people.

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