

Decision-Making and Execution: The Practice and Analysis of Technological Governance

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Abstract. At present, technical governance mainly refers to the governance form in which advanced technologies represented by artificial intelligence are incorporated into the governance process. In the decision-making stage, technical governance can not only enhance the wide representation of government policies, but also calm the passion of equalitarianism through technological control. In the policy execution stage, technical governance can realize extensive and accurate real-time monitoring of policy objects to ensure the realization of the original intention of the policy, but it invades the field of citizen privacy to an unprecedented extent. The increasing citizen freedom right in modern society makes the social structure more and more complicated and evolves towards a risk society. The balance of technical governance on the citizen freedom right in policy practice is the necessity of social development. The government and its officials should try their best to keep an open mind when applying technical governance means to decision-making; In the policy execution stage, they should maintain a modest attitude. First, we should adhere to the principle of limited monitoring, and second, we should adhere to the principle that the monitored information and data of the citizens will not be contacted by any other natural person when there is no misconduct.

Keywords: Technical governance; policy process; monitor; freedom; modest attitude.

1 Introduction

In the field of governance theory and practice, technological governance refers to the application of technology in the process of national and social governance activities, in order to seek more precise and efficient governance processes and governance performance. Technology is a tool. The important reason why human society is powerful is the ability to continuously create and use advanced technological tools. Therefore, the practice of incorporating technology into the governance process has existed since ancient times. However, before the first industrial revolution, technological progress was slow and its role in governance was not significant. With the increase in productivity brought about by the modern industrial revolution and the complexity of national and social governance, technology has been significantly innovatively developed and gradually absorbed into the human governance process to seek to cope with the high complexity of national and social governance since the emergence of monopolistic capitalism in modern times.

There are generally two types of technologies involved in technological governance.^[1] One is a governance technique in a methodological sense, which includes various techniques, strategies, mechanisms, such as "target responsibility and quantitative assessment", "procedural

technology design", etc., ^[2] and focuses on intervening in people's behavior through specific institutional arrangements to promote the achievement of policy goals. Another type is a technology in the sense of "science and technology", which is based on the laws of natural science and is generated through people's inventions and creations. For example, the invention of the telegraph in modern times greatly improves the efficiency of information long-distance spatial transmission in the governance process. In fact, the methodological governance techniques are the optimization of existing resources; But in the sense of "science and technology", technology is an increment of the governance process. With the rapid evolution of the science and technology in modern society, the significance of incremental technology in the governance process has significantly increased. Science and technology are the primary productive forces, not only for the economic production field, but also for the improvement of governance capabilities.

The reason why technological governance has become a focus and concern of people again today is due to the vigorous development of new technologies such as "the Internet of Things, big data, and artificial intelligence in the sense of science and technology, which is accelerating the promotion of technological governance on a global scale", ^[3] and has brought unprecedented reshaping effects to governance. Therefore, when discussing technological governance, the main meaning should be to incorporate advanced technologies such as artificial intelligence into the governance process. In recent years, the academic community has achieved fruitful research on technology governance. In terms of its main research interests, it not only affirms the positive value of incorporating advanced technology tools, especially advanced technologies such as artificial intelligence, into governance, but also raises full vigilance against potential negative effects. However, from the perspective of policy decision-making and execution, there is not much literature on the rationality and limitations of integrating modern advanced technologies represented by artificial intelligence into the governance process, as well as their impact on the boundary between government public power and the rights of the citizens. This article attempts to analyze the impacts of technological governance from the perspective of policy processes, in order to form a rational direction and normative guidance for the development of technological governance.

2 The integration and impact of technological governance in policy decision-making and execution

2.1 Policy decision-making stage

Governance achieves authoritative and scientific allocation of social values through policy processes, supplies public goods and services, regulates the relations of rights of social members, and achieves a balance between fairness and efficiency, and promote fair sharing of development and its achievements. Returning to essence, according to the general laws of human society, economic relations are the foundation of various other social relations. Therefore, the good governance fundamentally lies in achieving a balance between social output and social value distribution, thereby achieving people's happiness and the strength of the country. The fundamental goal of governance is realized through a reasonable policy process. According to Simon's idea that "management is decision-making", the primary link in the policy process is decision-making. The decision-making process of governance policies is a process in which

public needs are expressed through public preferences. In the history of democratic politics since modern times, the determination of public preferences has always been a process with varying degrees of flaws. The essence of democratic representation is that public power is regularly delegated to a few people to exercise governance power on behalf of everyone, because technology in the past was not sufficient to support frequent full participation in decision-making for the too high cost. This situation can easily bring moral risks of officials and the risk of damaging public interests. It is also the reason why the legitimacy of western democratic governments has been questioned by the public and even social unrest has occurred in recent years.

Advanced technological means provide solutions for improving the broad representativeness of public preference expression in the decision-making stage. ^[4] The government utilizes technologies such as the internet, big data, and artificial intelligence to assist in the decision-making stage of governance, enabling efficient and cost-effective expression of preferences among all members of the society. Technically speaking, it doesn't seem difficult to develop a voting system for all members of the society. The prospect of full participation in governance decision-making will at least continuously enhance the public participation and satisfaction in the policy formation stage in historical evolution. Although there is currently no use of a regular full staff voting system in the country governance practice, it is not surprising that the government can accurately understand the public attitudes through means such as the Internet, big data analysis, and cloud computing, thereby shaping decision-making direction and policy strength. For example, in some rural areas of many developing countries, village affairs used to be mainly decided by village officials, with insufficient participation from villagers; Under the conditions of technological governance, higher-level governments and village cadres can clearly grasp the wishes and demands of the majority of villagers through online meetings, online voting, and other means, so as to make more targeted decisions. This indicates that the emergence of advanced technology of governance “makes it more likely for the public to influence government decisions”. ^[5] This relatively strengthens the public's influence on the decision-making stage of the governance, while weakening the government's autonomy as the agent of the people. This change is in line with the direction of the legitimacy construction of modern democratic politics, and it is reasonable and positive in terms of value norms.

However, the weakening of government autonomy brought about by technological governance may bring risks of breaking the reasonable balance between efficiency and fairness, social output and social value distribution. The sum of human social conditions forms a complex social structure, which is fundamentally determined by the relations of distribution of human values. A well governed society is bound to achieve a balance in distribution relations, that is, it must protect the basic fairness of social value distribution and defend the basic human rights of social members; At the same time, it is necessary to maintain a reasonable allocation of value for innovation creators and those who have made more efforts and achieved results. Through the formulation of public policies, rulers aim to achieve constructive operation of the complex social structure. The good governance not only suppresses the excessive and disorderly expansion of the advantageous class, but also soothes the egalitarian passion of the general public. Therefore, in the era of technological governance, facing with the strengthened influence of the public on governance decisions by technology, the government tends to control the egalitarian passion by controlling the use of technology in technological governance. By setting and controlling the fields, methods, and intensity of technology application in decision-making, the necessary

autonomy of governance in the technology governance trend can be protected. Of course, this protection must be aimed at maintaining the constructive nature of the complex social structure as a whole, promoting sustainable development of human society. Within this scope, this technological control is moral, legal, and in line with good governance. This sets necessary limits for the application of technology in the decision-making stage of technological governance. Obviously, the boundary line formed by the necessary limits of technological application can be shifted. The legitimacy pressure brought by the public participation needs and policy demands will promote national governance to apply technological governance to more policy areas as much as possible, so that the opinions of the public can be expressed and valued. This is actually a kind of democratic control of government decision-making behavior achieved by the public through technological governance, and that can alleviate people's concerns about technological governance "becoming a super tool for dominating the masses" and "the risk of moving towards technological manipulation and domination". [6]

2.2 Policy execution stage

The execution of policies in governance has always been a significant issue that affects the original intention of policies. Through the design of various organizational management mechanisms, it can generally only to achieve post relief for execution deviations. The application of modern technologies such as big data, cloud computing, and artificial intelligence in policy execution is expected to achieve real-time monitoring and timely correction of policy execution. This real-time monitoring and timely correction is both extensive and precise. The extensive means that it is possible to achieve full monitoring of the objects covered by policies, and "modern technological governance often has the characteristic of full coverage"; [7] The precise means that it can effectively monitor every individual in all policies objects. With the help of terminal monitoring devices, sensors, mobile terminals, big data and other technologies, based on basic information such as ID card numbers and mobile phone numbers, through the capture of individual social life information, "It is sufficient to outline the main social activity images of individuals, and these activity images can be used to analyze individual behavioral characteristics. By analyzing and utilizing these data well, the monitoring ability of state power can be enhanced". [8] In today's world, with the support of advanced technology, governments of major countries have the ability to monitor society to ensure the realization of specific governance goals. Some governments even implement monitoring measures on other countries and important international organizations. In many countries, in order to achieve social safety, the camera monitoring system covering both urban and rural areas has been established since 2010. Once criminal cases such as theft or robbery occur, the camera monitoring system can help to efficiently capture criminals; The existence of the camera monitoring system has also contributed to deterring potential criminal behavior and reducing crime rates.

During the policy execution phase, the government's monitoring of society is mainly based on the main variables that affect policy effectiveness. Through terminal detection devices, the internet, big data, and artificial intelligence technologies, the overall and precise control of policy execution is achieved by the government. The main variables can be divided into material variables and human behavioral variables, and the vast majority of material variables are the result of human behavior. Material variables and human behavior variables are transformed into interpretable and symbolic information through government technology monitoring devices, and transmitted to the policy central system. Through big data operations, effective control and

intervention of policy execution status are achieved. The monitoring of material variables is undoubtedly rarely controversial. However, monitoring human behavioral variables often raises significant concerns and controversies. The execution of any important governance policy undoubtedly requires the government to monitor society to a certain extent, otherwise orderly governance is impossible to talk about. The government's monitoring of society is a behavior that has existed since the existence of the government in humanity. However, the application of modern technology in governance has led to a greater level of monitoring than ever before, and that is a common concern in academic discussions on technological governance. In terms of collecting individuals' information, some giant internet companies have taken the lead, using their platform service scenarios to obtain massive amounts of data related to personal behavior. Both the government and the public have been vigilant about this and have taken legal, regulatory, and policy measures to address and restrict it. The massive amount of data generated by the government's monitoring of the public during the governance process is firstly conducive to the effective execution of governance policies, but at the same time, there is a problem of intrusion into the field of citizen privacy rights.^[9] This problem may lead to ethical disputes about human dignity. "The lack of supervision on the legality and legitimacy of the government's comprehensive collection, use, and storage of data will bring security risks to the personal privacy of citizens."^[10]

Obviously, usually no one is willing to be a "transparent person". But in the policy execution framework supported by modern technology, everyone may become a transparent person. The public has concerns about becoming transparent, but this concern is not unilateral and also relates to the civil servant group which is a micro component of the government. As government officials, the group of civil servants may have control over the massive amount of data obtained by the government through monitoring society. However, in social life, this group also has a large amount of behavior time that is active as a part of the public, and their behavior will also inevitably become specific targets in policy monitoring and be processed into information symbols stored in government information databases. Therefore, both the general public and the government members face the possibility of becoming transparent individuals. This provides subjective conditions for addressing the issue of government intrusion into the citizen privacy rights in both public and private life. The technological means in technological governance can not only provide the government with the power to monitor and collect citizen behavior data in policy execution, but also provide objective conditions for protecting citizen privacy rights. The specific path is to use technologies such as big data and artificial intelligence to automate the processing of the vast majority of social monitoring data, and only open a small number of information data related to interfering with policy execution or suspected violations of laws and regulations to government employees as evidence to correct execution deviations. Currently, governments or international organizations around the world have attached great importance to preventing the misuse of information data generated by individuals' behavior by internet giants, and have formulated corresponding laws and regulations to regulate it. However, the protection of citizen data security caused by government policy execution has not received sufficient attention.

Therefore, the moral meaning of technological governance must be clearly defined in order to resolve ethical disputes in the application process of technological governance. The ethical rationality of technological governance, especially when it comes to issues of citizen privacy and data abuse, is based on the premise that through such infringement and data collection, it is

conducive to safeguarding the more important rights and interests of society as a whole and each individual, and it is committed to effectively controlling such privacy infringement and data collection. We should further strengthen the above two directions in legal formulation and enforcement to enhance the moral legitimacy of technological governance.

3 Analysis of the deep monitoring of technological governance in the practice of decision-making and execution

In the decision-making and execution stages of policies, technological governance clearly involves deep monitoring of human behavior that goes beyond the past. Firstly, the government monitors the general public, and at the same time, there is a balanced supervision and control of the technical governance power by the public through appropriate institutional or technological means based on the protection of their own rights. However, overall, the controversy over ethical correctness that has attracted people's attention is mainly the deep monitoring of the public by the government using modern high-tech means. Whether it is the decision-making stage that controls public participation through the setting of decision-making areas, methods, and intensity in the application of technological governance, or the monitoring of public behavior during the execution stage, both contain the damage to public political, social, and personal freedom rights. "Some anti-technology governance advocates view technology governance as a flood and beasts, believing that it will inevitably deprive people of their freedom".^[1] Therefore, it is necessary to analyze the impact of modern technologies such as big data, cloud computing, and artificial intelligence on human freedom in policy processes, in order to provide normative guidance for the application of technological governance.

The history of human society, in the sense of Hegel's "struggle for recognition", is a process of gradually realizing freedom from non-freedom, and human freedom is closely related to beautiful things such as dignity, rights, and happiness. Initially, humans struggled for survival freedom in the face of the natural environment. So far, with the highly developed productivity, humans have acquired excellent abilities to transform and utilize nature, and have gained overall survival freedom. Human beings still face economic, personal, and various other dimensions of social oppression and constraints in class society. With the baptism and reshaping of social structure by modern democratic revolution, human beings have generally achieved political, social, and personal freedom so far. However, dialectical materialism tells us that the development of things is often opposite and complementary, opposite and unified. Human freedom denies the oppression of the natural environment and the various oppression and constraints of class society on humans, but it will inevitably enter a new unity of opposites, facing the balance of new opposites to achieve the reality of freedom. These new opposites are morality, law, and governance activities. A society where human beings have gained extensive freedom will inevitably need a high level of civilized literacy, the implementation of a high level of rule and law, and the strengthening of governance capabilities.

A high level of civilized literacy, a high level of rule and law, and strengthened governance are the three fundamental control mechanisms or implementation mechanisms for the right to real freedom. The development of advanced productive forces represented by science and technology, as well as the continuous improvement of the modern democratic rule of law system, have given the public greater freedom than ever before. For example, they can easily transcend

certain time and space limitations, and they can easily publish their views in public opinion through self-media. The growth of greater freedom inevitably requires a proportionate control ability increase in the other side. Therefore, the integration of advanced technology into the policy process, the monitoring of people's behavior under the support of technological governance, the precise determination of the moral and legal compliance of the public as a whole and at the individual level, and the improvement of the modernization and efficiency of governance, have been inevitable conditions for the expansion of human freedom in modern society.

But human freedom is the result of human historical struggle, which concerns human dignity and happiness. Therefore, anyone has the right not to be disturbed when they do not violate civilized morality, the rule and law, governance policies and orders. But in the era of modern technological governance, the result of being monitored cannot be avoided. There is a difference between not being disturbed and not being monitored here. Not being disturbed refers to the fact that although one's behavior may be encoded as information symbols by advanced monitoring technology, these information symbols will not be disclosed to or easily accessed by natural persons, including government employees as natural persons. But being monitored is still difficult to be avoided. Of course, being monitored mainly refers to behavior in public settings. The public has the right not to be disturbed as long as their behavior conforms to the requirements of civilized morality, rule and law, and governance. Otherwise, those who abuse individuals' behavior information will be severely investigated and pursued. However, in the overall social structure of modern society where people have higher freedom, it is inevitable for technological governance to deeply monitor their behavior, because the high degree of freedom brings about a highly complex social structure, and the result is that humanity enters a risk society. "Modern society has evolved into a risk society, becoming an important context of the times today, and modern social governance is increasingly prominent as a risk society governance",^[12] The improper behavior of a certain person may lead to significant risks of social disorder, thereby infringing on the freedom rights of the general public. Cases of widespread social risks caused by individual misconduct are common during the COVID-19 epidemic, and the recording of individual tracks by health codes is a necessary measure for technical governance to prevent social risks through in-depth monitoring.

Because of today's high development of technology and society, the citizen freedom has been further developed, but it faces the situation of being deeply monitored by technological governance. This is not that the general public is not untrustworthy, but rather that the complexity of human nature has become more and more with the development of society. The majority of the public follows the requirements of civilized morality, rule and law, and governance, but there will still exist the opposite situation. In a highly correlated, complex, and risky society, it is necessary to more accurately monitor and control improper behavior. Technical governance cannot pre-distinguish the minority members of the public who have inappropriate behavior tendencies, therefore, it cannot only monitor a few individuals, but needs comprehensively cover all social members in the governance policy execution process. In life, the public must ensure that their actions comply with moral, legal, and government regulations. In this case, the information formed by individual behavior is strictly limited within the technical system and will not be accessed or obtained by any natural person. In this situation, the public's privacy and freedom rights are generally guaranteed.

4 Conclusion

The development of modern high-tech has reached a level far beyond the past. The impact of high-tech on the structure of human society has gradually shifted from quantitative changes to revolutionary changes, such as the birth of unmanned factories. The modern society, which has been reshaped by high-tech, means greater freedom and higher probability of systemic risks for people. The government needs to achieve modernization of governance to adapt to the national and social governance of the new technology era. It needs to apply high-tech to policy decision-making and execution processes, in order to achieve high-precision and effective governance with high sensitivity. It has become an inevitable choice for the government to use the technological governance measures to impact and monitor the public in the policy process. It is conducive to maintaining a balance between development and fairness in public policies, ensuring that policy execution does not deviate from the original intention, and accurately preventing the implementation of the entire policy from being damaged or disturbed by inappropriate or illegal behavior of a few individuals. As long as technological governance is aimed at these purposes, in principle, the monitoring of the individual behavior and the invasion of citizen privacy rights by technological governance should be considered reasonable, legal, and in line with good governance. Therefore, in the governance process, with the evolution of modern advanced technology, it is not necessary to hesitate to apply these advanced technologies to the policy practice process of governance. In this way, the technological governance helps to improve the quality of policy processes, promotes people's happiness and national development.

Being reasonable, legal, and in line with good governance do not mean that the government can use technology to infinitely impact and monitor the public. When applying technological governance methods to decision-making, openness should be maintained as much as possible, public expression should be allowed as much as possible, rather than using technological means to exclude the public from the decision-making areas they should be able to participate in. As such, we can ensure a high-quality policy supply. When applying technological governance methods to decision execution for the more important rights and interests of society as a whole and each individual, although the applying can be considered reasonable, legal, and in line with good governance, the government and its officials should maintain a modest attitude. This modest attitude is manifested firstly by adhering to the principle of limited monitoring which only monitors certain characteristics of the public behavior based on policy execution requirements. That is, monitoring parameters should be set, and the citizen behavior information should be collected only based on the parameter range, rather than excessively collecting. The modest attitude is manifested secondly by adhering to the principle that the monitored information data of the public shall not be accessed by any other natural person when there is no improper behavior of the people. The government shall neither disclose individual behavior data to any third party nor allow officials as natural persons to access citizen behavior data arbitrarily. For this purpose, it is meaningful for artificial intelligence devices to automatically collect, transmit, store, and filter personal information data of citizens collected by the government, and only the behavior data of inappropriate actors judged by artificial intelligence can be processed by legal public officials in accordance with the law. Even if it is the behavior data of the inappropriate actors, attention should be paid to protecting the corresponding legal privacy rights, and it should not be widely disseminated arbitrarily.

Technology governance has shown impressive results, but in the era of accelerated innovation and development in modern high-tech, it can be said that the impact of technology governance may only be at the beginning. As long as technological governance is regulated within the scope of rationality, legality, and good governance, and the government and public officials who use technological governance tools maintain a necessary modest attitude and act in accordance with the law, there is reason to believe that the further extensive and deep development of technological governance will inevitably be an important tool choice for the historical evolution of human society towards goodness. Technological governance, through optimizing policy decision-making and execution, will provide important support for the good governance and development of the countries around the world in the new technological era represented by artificial intelligence.

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