**Frontier technologies and governance innovation: public perception, evaluation and expectations**

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**Survey period** : September 21, 2017 to September 25, 2017.

**Survey method** : electronic questionnaires pushed through the Internet and WeChat public platform, and paper questionnaires.

**Sample composition** : Questionnaires were distributed to 31 provinces, municipalities and autonomous regions across the country, and 5,450 valid questionnaires were collected.

**Key findings** :

The public is impressed by the application of cutting-edge technologies in the three fields of "ecological protection", "ecological energy" and "intelligent green manufacturing" in my country in recent years, and believes that cutting-edge technologies are helpful in improving the country's governance capabilities.

The public believes that the application of cutting-edge technology in the field of national governance is necessary and is satisfied with its application results; e-government has been widely carried out at the grassroots level, and more than 80% of the respondents are satisfied with the current data sharing and open government affairs of the government public sector.

The significance of the application of cutting-edge technology in the field of national governance is mainly reflected in expanding governance space, providing technical support, achieving collaborative governance, and improving governance efficiency; more than half of the public believe that the challenges of artificial intelligence and the crisis of public privacy are new situations facing social governance in the intelligent era.

The public's main expectations for social governance in the intelligent era are that the government strengthens top-level design, grassroots units improve concepts, build a talent team, and increase investment in science and technology.

In the course of a country's modernization, science and technology have always played a key role. The innovation of science and technology often shapes the country's modernization characteristics and promotes the overall progress of all aspects of society. When it comes to the understanding of modernization, it can be considered that modernization is a global trend and historical trend. It is a continuous process that has never been interrupted since its inception. There is no unified standard for measuring modernization, and different countries are still achieving modernization in different ways. Historical experience shows that an important way for a country to enter modernization is the innovation and progress of science and technology, and the scientific revolution is the leading force of modernization. Western countries were the first to carry out the industrial revolution, which promoted industrialization and economic development with technological growth, applied scientific and technological achievements to all aspects of social life, and thus promoted the emergence and development of Western modern civilization as a whole. It can be seen that the progress of science and technology continues to affect and change people's material and spiritual living conditions, and is an important means to help the country achieve modernization.

The Third Plenary Session of the 18th CPC Central Committee proposed to "advance the modernization of the national governance system and governance capacity", and made new arrangements and requirements for the cause of socialist modernization with Chinese characteristics. Promoting the modernization of national governance is a key link in China's modernization process. The relationship between science and technology and modernization is inseparable, which determines that a reliable connection must be established between national governance and science and technology.

Promoting the modernization of national governance requires technical guarantee, technical support and technical promotion. The application of science and technology in the field of national governance has become a general trend. A series of scientific and technological innovation achievements, especially the application of cutting-edge technology, have played a huge positive role in economic development. What kind of impact cutting-edge technology has on national governance and the current public's understanding of cutting-edge technology in the field of governance are worthy of attention and discussion. In this regard, the People's Forum Questionnaire Survey Center conducted a survey on "Public Cognition and Evaluation of Cutting-edge Technology in the Field of Governance" in order to provide readers with a reference for a deeper understanding of the role of cutting-edge technology in promoting the modernization of the national governance system and governance capabilities.

**Public evaluation of the application of cutting-edge technologies in governance**

**Since the 18th CPC National Congress, the extensive application of cutting-edge technologies in different fields has impressed the public.**

When asked, "Since the 18th National Congress of the Communist Party of China, which of the following fields have impressed you with the application of cutting-edge technology?", 66.22% of the respondents chose "ecological and environmental protection", 63.30% chose "ecological energy", 61.33% chose "intelligent green manufacturing", and 59.63% chose "modern agriculture". In addition, 49.27% ​​of the respondents chose "smart city and digital society", 45.48% chose "information network", and 45.26% chose "health technology". Cutting-edge technology has been widely used in different fields, among which the cutting-edge technology in the fields of environmental protection, energy, and industrial and agricultural production related to ecological civilization is the most impressive to the interviewed public. On the one hand, this reflects that the construction of ecological civilization has attracted more and more attention from the public since the 18th National Congress of the Communist Party of China, and on the other hand, it also reflects that the increasingly severe ecological environment situation is forcing the accelerated development of ecological cutting-edge technology to protect the living home of mankind. At the same time, information technology, which is closely related to social life, provides the public with more convenient infrastructure, public services, and communication channels, making Internet information technology a field of public concern.

**Most of the public believe that the application of cutting-edge technology in the field of governance is necessary, and the application of cutting-edge technology in the Internet industry and other fields is conducive to improving governance capabilities.**

When asked "Do you think it is necessary to apply cutting-edge technology in the field of national governance?", more than 90% of the respondents chose "necessary" (77.85% of them thought it was very necessary, and 15.99% thought it was relatively necessary), and only 0.79% of the respondents chose "unnecessary". Some scholars have pointed out that the integration and development of modern communication technology, computer technology and network technology have changed the way of acquiring, inheriting, accumulating and creating knowledge, and have promoted profound changes in lifestyles, working methods, organizational methods and social forms. On this basis, promoting the innovation of the institutional mechanisms of national governance through technical routes and enhancing the coordination and cooperation between governance subjects are becoming an effective way to resolve various conflicts of interest in the process of national governance.

When asked "In which fields can the application of cutting-edge technology help improve the country's governance capabilities", the most popular choice among respondents was "Internet industry" (58.92%), followed by "business intelligence and consulting services" (51.20%), "retail industry" (50.39%), "medical and health" (45.97%), "transportation and logistics" (26.92%), and "government emergency management and risk management" (9.78%). The survey results show that the public places more emphasis on improving the country's governance capabilities through the application of cutting-edge Internet technology. In the information age, the Internet industry has broadened the vision and scope of national governance and has become an important platform for sharing production and living factors. Internet governance has also become a hot topic of common concern to China and the international community. Against this background, technological innovation has continuously promoted the rapid development of the Internet industry, and there is much to be done to strengthen national governance through the Internet.

**The majority of the public are satisfied with the application of cutting-edge technologies in the field of governance and recognize the government's efforts in data sharing and government openness in the public sector.**

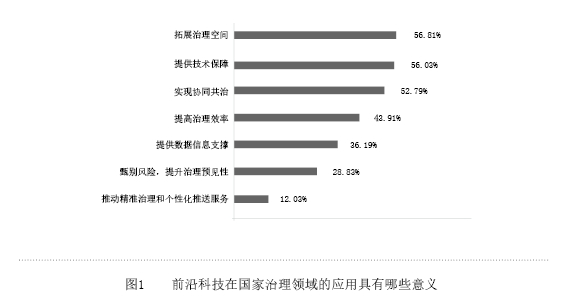
When asked, "How do you evaluate the application of cutting-edge technology in the field of national governance?", more than 80% of the respondents chose "satisfied" (85.51%), and only 6.80% of the respondents were dissatisfied. my country's scientific and technological innovation has formed an effective fit with governance work, and science and technology have gradually played a role in the process of governance modernization, which the public affirms.

E-government has changed the traditional way of government behavior and has become one of the important governance channels that are highly valued at present. In order to understand the promotion of e-government at the grassroots level, this survey investigated the question of "whether the property management/residents' committee in the community where the respondents live has QQ and WeChat groups". The results show that more than 80% of the respondents' property management and residents' committee in the community have QQ and WeChat groups (83.46%). Regarding the release of government information, more than 60% (62.48%) of the respondents often receive "information and notifications released by the local government through SMS, Weibo, and WeChat public accounts", 21.02% of the respondents occasionally receive it, 11.67% of the respondents rarely receive it, and only 3.48% of the respondents said they have never received it. The above results show that the current promotion of e-government is good, and the government generally transmits information to the public through new media communication means. Further analysis of the actual effectiveness of e-government shows that the characteristics of new information dissemination media are not only the timeliness of dissemination, but also the interactivity of information communication feedback. The next step is how to integrate the interactive feedback of information to form government information big data, and then provide more convenient services to the public. This is the focus that local governments at all levels should pay attention to.

When asked, "How do you evaluate the current data sharing and government openness of government public departments?", more than 80% of the respondents gave a "satisfactory" answer (86.18%), and the proportion of dissatisfied respondents was only 5.93%. The public's high recognition and affirmation of e-government shows the good effect of information technology application in the governance process. The current scientific and technological progress has increased the transparency of government work, thereby providing technical means to enhance the government's credibility.

**The application of cutting-edge technology is of great significance in expanding governance space, providing technical support, achieving collaborative governance and improving governance efficiency.**

Regarding the significance of the application of cutting-edge technology in the field of national governance, the public's evaluation is relatively diverse and the proportion of people holding different opinions is relatively close. When asked "What do you think is the significance of the application of cutting-edge technology in the field of national governance?", the four most popular options selected by the respondents were "expanding governance space" (56.81%), "providing technical support" (56.03%), "achieving collaborative governance" (52.79%), and "improving governance efficiency" (43.91%) (see Figure 1). In terms of expanding governance space, with the rapid development of computer and network technology, Internet space has become one of the indispensable public spaces for human life. Through the application of cutting-edge technology, new network technologies, new developments, and new situations can be controlled, and new governance space can be broadened. In terms of providing technical support, the transformation of scientific and technological achievements, especially cutting-edge technological achievements, can directly promote the development of productivity, reduce the governance costs in different fields, and thus promote the modernization of national governance. In terms of achieving collaborative governance, the assistance of cutting-edge technology can make it easier for the government, the market, and society to form a trinity of collaborative governance, make up for the limitations of a single subject, and promote resource sharing and complementary advantages through mutual coordination and cooperation. In terms of improving governance efficiency, the application of cutting-edge technologies helps to optimize the allocation of resources within society, improve the utilization efficiency of governance resources, save a lot of manpower, material and financial resources through technological changes, and ultimately improve the overall efficiency level of national governance.



**Challenges of applying cutting-edge technologies in governance**

**Social governance in the intelligent era faces new situations**

When asked "What new situations are facing social governance in the intelligent era", more than half of the respondents chose "the challenge of artificial intelligence" and "the crisis of public privacy" (60.57% and 56.53% respectively), 44.74% chose "the problem of scientific and technological ethics", and 11.97% chose "the phenomenon of machine outsourcing". The survey results show that although cutting-edge technologies such as artificial intelligence in the intelligent era have entered all aspects of people's lives, their potential negative impacts have also aroused public vigilance. The relationship between humans and technology is an issue worthy of deep thinking, and the public privacy issues brought about by the intelligent era have also attracted public attention.

**The application of cutting-edge technology in the field of governance faces practical difficulties**

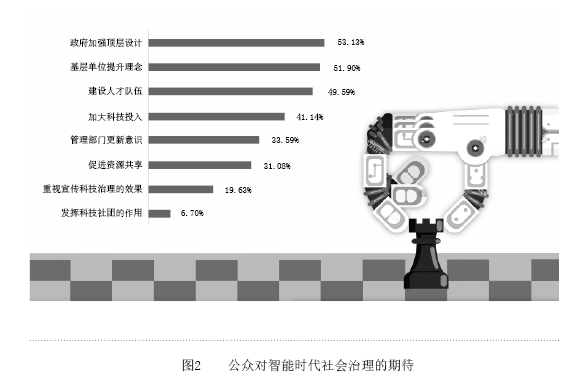
When asked "What difficulties are faced in the application of cutting-edge technology in the field of national governance", more than half of the respondents (54.86% and 53.01% respectively) chose "there are information barriers and insufficient openness" and "the concept of applying cutting-edge technology to governance is relatively backward", 47.25% chose "lack of overall planning and lack of unified standards and specifications", and 40.07% chose "information fragmentation leads to insufficient information authenticity". Open and shared information and diversified advanced governance concepts are the basic prerequisites for the effective application of cutting-edge technology in national governance. In the information age, how to break down information barriers through technological innovation while preventing the creation of new information resource monopolies has become a key issue that all national governance entities must consider. Only by further promoting the openness and integration of information can we optimize and improve national governance capabilities on the basis of big data, which also requires scientific top-level design and sufficient human and financial resources as a guarantee.

**The current technical deficiencies in the government's implementation of e-government**

When asked "What are the technical deficiencies in the current government's promotion of e-government?", the most popular choice among respondents was "the existing network platform is not well connected with mobile phones, tablets, televisions and other media" (67.67%), followed by "the structure of information receiving terminals needs to be improved" (53.33%) and "the level of service intelligence is limited" (46.79%). In addition, "the ability to feedback information needs to be improved" (36.87%) and "the degree of electronicization of basic data needs to be improved" (34.16%) are also prominent. The public believes that the main problems in the current government's promotion of e-government are concentrated on hardware facilities, which reflects that the current speed of e-government infrastructure construction actually lags behind the innovation speed of cutting-edge scientific and technological concepts and technologies, and the manufacturing level of the public information receiving terminal has not yet matched the cutting-edge technology of the times and the actual information needs of users.

**Public expectations for social governance in the intelligent era**

When asked "What are your expectations for social governance in the intelligent era?", the four aspects that respondents most expected were "government strengthening top-level design" (53.13%), "grassroots units improving concepts" (51.90%), "building a talent team" (49.59%) and "increasing investment in science and technology" (41.14%) (see Figure 2).



The government strengthens top-level design. The government is an important subject of social governance, and generally plays a role in taking charge of the overall situation, coordinating all parties, and taking into account all factors. In the intelligent era, the development of intelligent technology is leading the formation of an intelligent society, and social governance is facing a new situation that has never been seen before. At present, there is a certain lag in the understanding of this new situation, and the government needs to guide other subjects to participate in social governance in the intelligent era by strengthening top-level design. At the same time, social governance in the intelligent era faces a series of new situations and new challenges, such as citizens' privacy and security issues, which require the government to design and implement countermeasures. Social governance in the intelligent era is a systematic project that requires the coordination of the work of all parties. The government must scientifically strengthen top-level design.

Promote the improvement of grassroots departments' concepts. Grassroots social governance is an important aspect of social governance in the intelligent era, but the current governance capacity of grassroots units and organizations needs to be improved. Grassroots party committees and governments have not yet completely realized the conceptual transformation from "social management" to "social governance". The governance methods are single and passive, and lack source-based and long-term social governance mechanisms and measures. Grassroots governance units need to adapt to changes in the social governance situation, learn and apply cutting-edge technologies, especially Internet information technology, which will help strengthen innovation in social governance concepts and stimulate the autonomy of grassroots units in the intelligent era.

Strengthen the construction of talent teams. The advent of the intelligent era has put forward new requirements for the construction of social governance talent teams: first, a group of scientific and technological talents with strong professional skills are needed to develop public products and innovate public service technologies, and promote the application of artificial intelligence technology in the field of social governance; second, talents in social governance positions need to master intelligent technology and operate the background of the technology platform in real time. It is worth noting that the application of intelligent technology in social governance will reduce the demand for manpower, but it also means the technical and professional upgrading of the social governance talent team.

Increase investment in science and technology. In order to achieve governance upgrades in the intelligent era, it is necessary to increase government investment in science and technology, guide enterprises and society to increase R&D investment, and strengthen and improve financial services for corporate technological innovation. The development of Internet technology in today's era has changed the original model of social governance, and the requirements for talent, technology, and funds for social governance are constantly increasing. Therefore, in order to achieve more scientific and technological achievements in my country in the future, it is necessary to increase the investment in technology innovation in national governance through the diversified participation and cooperation of market entities and social entities, through the model of government procurement or government-society cooperation, so as to promote the continuous and effective improvement of social governance.

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