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Reconstructing the Foundations of Political Philosophy in the Context of New-Quality Productive Forces: Implications for Public Management and Governance Systems

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Abstract: In the context of the rapid development of the digital economy and transformative technologies, new-quality productivity, driven by artificial intelligence, big data, and blockchain, is profoundly reshaping socio-economic structures and governance models. This emerging form of productivity not only redefines resource allocation mechanisms but also challenges the foundational assumptions of traditional political philosophy. Classical frameworks, such as liberalism, utilitarianism, and social contract theory, face significant limitations in addressing complex issues related to data privacy, algorithmic bias, and rights distribution, necessitating a theoretical reconstruction to align with the new technological landscape. This study explores the need for reconstructing the philosophical foundations of political systems under new-quality productivity and examines its far-reaching implications for public management and governance frameworks. By analyzing the management models of democratic and centralized systems, the study highlights their respective strengths and weaknesses in managing new-quality productivity. Democratic systems excel in fostering innovation through market-driven mechanisms and societal collaboration but often encounter challenges in coordination and efficiency. In contrast, centralized systems leverage strategic planning and high execution efficiency, yet face potential constraints in innovation and ethical concerns arising from technological centralization. The complementary nature of these systems provides valuable insights into constructing a global governance framework. The study further argues that the global governance system in the digital economy era should emphasize inclusivity and collaboration. By integrating ethical oversight, data sovereignty protection, and multilateral cooperation mechanisms, it is possible to achieve a balance between equity and efficiency in public management. The theoretical contribution of this research lies in advancing interdisciplinary studies between political philosophy and public management, while its practical significance lies in offering policy guidance and solutions to address social inequality, digital divides, and governance challenges in the era of new-quality productivity.

Keywords: New-quality Productivity; Political Philosophy; Public Management; Global Governance; Technological Ethics; Digital Economy.

1. Introduction

1.1. Background

1.1.1. The profound impact of the new qualitative productive forces on the political and social structure

With the rapid development of artificial intelligence (AI), big data, blockchain and other technologies, the form of productivity is undergoing profound changes. With data as the core element, the new quality productivity subverts the traditional resource allocation and social operation mode through technology-driven and collaborative innovation.

(1) Restructuring of social structure: The new quality of productivity has changed the logic of resource allocation and promoted the transformation of the mode of production from the traditional form dominated by labor and capital to intelligent and knowledge-intensive. This shift has not only improved economic efficiency, but has also had a profound impact on social stratification and equitable distribution.

(2) Adjustment of political structure: The penetration of technology has brought new requirements to government functions and governance models, and the traditional top-down management has gradually been replaced by data-driven and collaborative governance. For example, digital public services have enabled the precise allocation of resources, but they have also sparked controversies over privacy protection and technical ethics.

1.1.2. The background of the interweaving of technology and philosophy

The rise of new qualitative productive forces has given rise to a series of new propositions intertwined with technology and philosophy:

(1) Balance between ethics and efficiency: The efficiency improvement brought about by technological development is often accompanied by ethical dilemmas, such as the fairness of algorithm governance and the infringement of individual rights by automated decision-making.

(2) Trade-off between individual rights and public interests: Data-driven decision-making processes need to maximize social benefits while protecting individual privacy. This puts forward the need for reinterpretation of traditional liberalism, utilitarianism, and other political philosophies.

1.2. Research Questions

1.2.1. How does the new qualitative productivity challenge traditional political philosophy?

The core characteristics of new quality productivity, such as intelligence, data-driven, and collaborative innovation, pose the following challenges to traditional political philosophy:

(1) The contradiction between liberalism in data sharing and privacy protection.

and (2) the practical problems of utilitarianism in algorithmic bias and benefit distribution.

and (3) the applicability of social contract theory in digital governance.

1.2.2. How to build a public management and governance system that is compatible with technology?

Most of the current governance systems are built in the context of industrialization and modernization, and they have not yet formed a perfect adaptability to the digital society driven by new productivity. This article attempts to answer:

(1) How to provide theoretical support for the digital transformation of public management through the reconstruction of philosophical foundations?

(2) How to achieve the unity of fairness, efficiency and inclusiveness of the governance system?

1.3. Implications of the Study

1.3.1. Theoretical Significance

Expand the interdisciplinary research of political philosophy and public management. This study aims to fill the gap in the basic research of political philosophy in the context of new qualitative productivity, and provide a new perspective for the interdisciplinary research of public management and political philosophy. By exploring the combination of technology and philosophy, the applicability of traditional political philosophy in the era of digital economy is enriched.

1.3.2. Practical Significance

Provide a path for global governance to combine philosophy and technology. With the globalization of the digital economy, public management requires collaboration and governance innovation across national borders. This study provides theoretical basis and practical guidance for constructing an inclusive international governance framework and addressing the social inequality caused by technology.

1.4. Research Methodology

1.4.1. Literature Review and Case Analysis

This paper systematically combs the relevant literature at home and abroad, analyzes the successful practices and shortcomings of new quality productivity management in different countries and systems, and extracts the general laws.

1.4.2. Integrative approaches from interdisciplinary perspectives

Combined with the multidisciplinary theoretical frameworks of political philosophy, public administration, technology ethics, etc., this paper comprehensively analyzes the research problems from the multiple dimensions of philosophy, technology and policy.

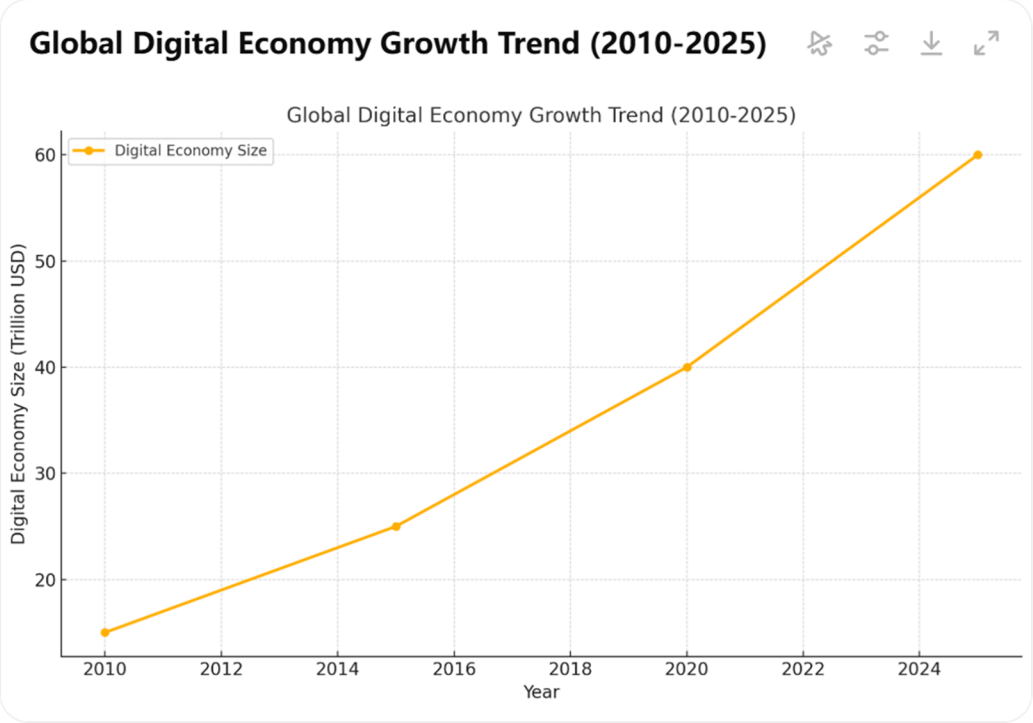


Figure 1. Global digital economy trend (2010-2025)

Figure 1 illustrates the growth trend of the global digital economy from 2010 to 2025. The chart shows that the global digital economy has grown rapidly from $15 trillion in 2010 to an estimated $60 trillion by 2025. This trend intuitively reflects the key role of new quality productivity in driving global economic change, and provides a data background for studying its impact on political philosophy and governance systems.

2. The Connotation and Philosophical Challenges of New Quality Productivity

2.1. The Connotation of New Quality Productivity

2.1.1. Technology-driven (AI, big data, blockchain)

With technology as the core driving force, the new quality productivity presents unprecedented transformative characteristics:

(1) Artificial intelligence (AI): through algorithm optimization, machine learning and deep learning technology, the production process is automated and accurate. In manufacturing, for example, AI-powered robots improve productivity and precision.

(2) Big data: Data has become a new factor of production, and through real-time analysis and prediction, it provides a basis for optimal allocation of resources and market decision-making. For example, businesses use user behavior data to design personalized products and services.

(3) Blockchain: Through distributed ledger technology, information transparency and trust mechanism are enhanced. In areas such as financial services and supply chain management, blockchain has significantly reduced costs and improved efficiency.

2.1.2. The central role of knowledge-based labor

Unlike traditional productivity, which relies on manual labor, new productivity is highly dependent on knowledge-based laborers. These workers drive innovation through creative thinking and technical skills:

(1) Technology developers and data scientists become an important part of productivity.

(2) Education and training are important in upgrading the skills of workers to adapt to the new technological environment.

2.1.3. The value of collaborative innovation

The new quality productivity emphasizes cross-domain and cross-departmental collaboration:

(1) Integration of technology and society: For example, in the construction of smart cities, the government, enterprises and social organizations jointly promote infrastructure construction and resource integration.

(2) Open innovation: Break the traditional enterprise boundaries and improve innovation efficiency through knowledge sharing and collaboration.

2.2. The Adaptation Dilemma of Traditional Political Philosophy

2.2.1. Liberal boundaries and the conflict of data privacy

Liberalism emphasizes individual rights and freedoms, but in the context of the data economy, its boundaries are challenged:

(1) Conflict between data privacy and public interest: Data sharing and openness promote social efficiency, but may infringe on personal privacy.

(2) The problem faced by liberalism: how to take into account the important role of data in social benefits when emphasizing the autonomy of personal data?

2.2.2. The ethical dilemma of utilitarianism in algorithmic governance

Utilitarianism focuses on the greatest happiness of the greatest number of people, but in algorithmic governance, this principle can lead to an ethical dilemma:

(1) Algorithmic bias: Because the design logic of the algorithm may imply bias, some groups may be treated systematically unfairly.

(2) Equity distribution: How can the algorithm ensure that the rights and interests of minorities are not ignored when optimizing the overall benefits?

2.2.3. Redefinition of social contract theory

Social contract theory emphasizes the contractual relationship between the individual and society, but in the context of new qualitative productivity, its core concepts need to be redefined:

(1) Data as a new public resource: How to construct data sharing rules to serve the society as a whole?

(2) Changing role of government: how to protect the public interest while avoiding excessive interference with individual freedoms?

Table 1 systematically compares the different characteristics of traditional productivity and new quality productivity in terms of core driving force, labor focus, collaboration mode, output characteristics, and key tools. This clear comparison shows how the new qualitative productive forces are leading profound changes in the social and economic structure through technology-driven and collaborative innovation

Table 1. Comparison of traditional and new-quality productivity features

Comparison Of Traditional And New-Quality Productivity Features

	Feature	Traditional Productivit	New-Quality Productivity
1	Core Drivers	Labor, Capital, Land	AI, Big Data, Blockchain
2	Labor Focus	Manual and Mechanical Labor	Knowledge and Technology
3	Collaboration	Within Organizations (Vertical)	Cross-Sectoral (Horizontal)
4	Output Characteristics	Mass Production, Standardization	Customization, Intelligence
5	Key Tools	Mechanical Tools, Basic Machines	Advanced Algorithms, Cloud Systems

3. The Reconstruction of the Foundation of Political Philosophy in the Context of the New Qualitative Productive Forces

3.1. The Intersection of Technology Ethics and Political Philosophy

3.1.1. Principles of ethical decision-making in algorithmic governance

Algorithm governance is an important manifestation of new quality productivity in social governance, and its core lies in the use of data and algorithms to achieve efficient decision support. However, while algorithmic governance improves efficiency, it also brings ethical and value challenges:

(1) Fairness and inclusiveness: Algorithms may be affected by data sample bias, leading to implicit discrimination in decision-making. For example, recruitment systems may favor a particular group based on historical data, exacerbating social inequalities.

(2) Transparency and accountability: The "black box" nature of algorithms makes it difficult to understand how they operate, which may weaken public trust in the governance system. Therefore, algorithmic governance needs to establish clear ethical decision-making principles, including transparency, fairness, and accountability.

3.1.2. Balance between data sovereignty and individual freedom

The core of the new qualitative productivity lies in the collection, analysis, and application of data, but it also raises tensions between data sovereignty and individual freedom:

(1) Definition of data sovereignty: How does the state manage cross-border data flows? How do you support global collaboration while keeping national data secure?

(2) Personal freedom and privacy protection: Data sharing and openness improve social efficiency, but excessive use or abuse of personal data may infringe on individual freedom. Political philosophy needs to provide new theoretical support for data sovereignty and individual freedom in order to achieve a dynamic balance between the two.

3.2. Reconstruction of the Philosophical Basis of Public Administration

3.2.1. A political-philosophical framework for civic engagement in the digital age

Traditional political philosophy emphasizes the right of citizens to participate, but in digital governance, the role of citizens has changed significantly:

(1) Expansion of digital participation: Online platforms and e-government have broadened the channels for citizens to express their opinions and participate in governance, but they may also strengthen the role of algorithms and technologies in shaping public opinion.

(2) Technological empowerment and civic responsibility: Digital tools enhance citizens' ability to express themselves, but they also need to be technologically literate and accountable to avoid the spread of disinformation and the misuse of technology.

3.2.2. The philosophical basis of the reciprocity of rights and responsibilities and the distributed governance model

Distributed governance is an important trend of public management in the context of new quality productivity, and its core lies in the optimal allocation of resources and power through multi-party collaboration:

(1) The principle of equal rights and responsibilities: In distributed governance, the decentralization of power must be accompanied by the clarification of responsibilities to avoid the governance risks caused by the decentralization of responsibilities.

(2) Collaboration of multiple subjects: The government, enterprises and social organizations play a common role in the governance system, but how to coordinate the interests of multiple parties is still a problem that needs to be solved.

3.3. Rebalancing Collective Interests with Individual Rights

3.3.1. Interaction between the public interest and algorithmic transparency

There is an interplay between the public interest and the need for transparency in algorithmic governance:

(1) The necessity of algorithmic transparency: The public's trust in algorithmic decision-making depends on transparency, but excessive transparency may lead to algorithm abuse or sensitive information leakage.

(2) Protection of public interests: Algorithms need to take into account both public interests and individual rights and interests, for example, in the field of public health, algorithms need to balance efficiency and fairness in optimizing vaccine distribution.

3.3.2. Dynamic trade-offs between rights protection and technical efficiency

The core goal of the new qualitative productivity is to improve technological efficiency, but this process cannot be at the expense of individual rights:

(1) Priority of rights protection: The application of technology should give priority to the respect for individual rights and avoid damage to rights and interests due to the supremacy of efficiency.

(2) Dynamic trade-off mechanism: Achieve a dynamic balance between efficiency and equity through policy tools and technological innovation, such as the introduction of an algorithmic audit mechanism to ensure fairness and compliance.

Figure2 illustrates the core interaction model between political philosophy and new qualitative productivity, emphasizing the relevance of three key dimensions: technology ethics, governance models, and power balance. Specific content includes:

(1) Technical ethics: focus on the fairness and transparency of algorithms.

(2) Governance model: responsibility and accountability in distributed governance.

(3) Power balance: the dynamic trade-off between privacy protection and efficiency improvement.

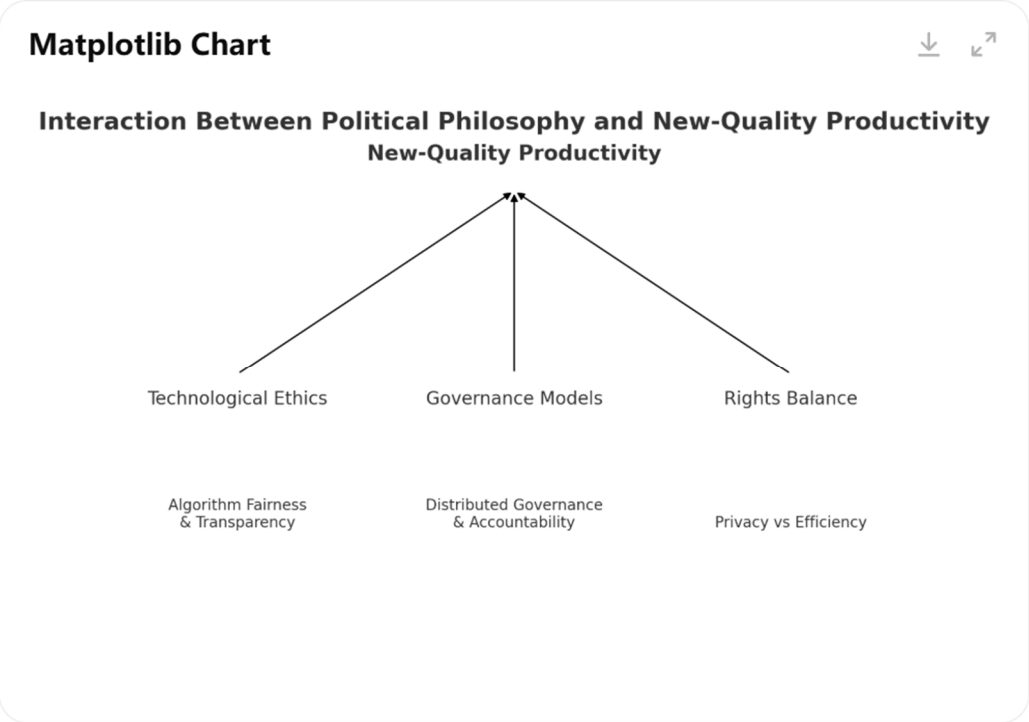


Figure 2. Matplotlib chart

4. The Enlightenment of New Quality Productivity to Public Management and Governance System

4.1. Innovation in Governance System

4.1.1. A collaborative governance model of state-led and social participation

The new quality productivity has promoted the transformation of the traditional governance model to a more collaborative direction.

(1) State-led coordination. As the main resource allocation and policymaker, the state can lay the foundation for technology-driven public management through strategic planning and financial support. For example, the Chinese government's large-scale investment in artificial intelligence and big data has contributed to the rapid development of the industry. In the context of globalization, national ownership is also a facilitator of transnational collaboration, especially in the development of international standards for data sharing and privacy protection.

(2) The innovative contribution of social participation. Social forces (enterprises, non-governmental organizations, and the public) are deeply involved in governance through an open platform, which realizes the flexibility and innovation of public affairs management. For example, in smart city projects, technological innovations from companies and feedback from the public provide key support for optimizing public services.

4.1.2. Distributed governance framework supported by digital technology

Distributed governance is based on digital technology and improves governance efficiency through multi-agent collaboration:

(1) Dynamic feedback of real-time data. Relying on technologies such as the Internet of Things, big data, and blockchain, the governance process can collect and analyze data in real time, and dynamically adjust policies to respond to social changes. For example, traffic management systems optimize traffic light conditioning with real-time traffic flow data.

(2) Clarity of the distribution of rights and responsibilities. Distributed governance enables a clear distribution of power and responsibility to different actors, such as governments, businesses, and social organizations. This mechanism reduces the duplication of governance and the waste of resources, and improves the overall efficiency.

4.2. Policy Tools and Implementation Paths

4.2.1. Design of data sharing and technology standardization policies

Data sharing and technical standardization are important means to promote the implementation of new quality productivity in public management:

(1) Construction of open data platform. Open data platforms facilitate the flow of data between the public and private sectors, such as the sharing of health data between governments and healthcare institutions to improve public health management capacity. Data sharing policies need to clarify the rules of ownership, access, and use of data to ensure fairness and security.

(2) Unification of technical standards. Data standardization enables data interoperability across different departments and geographies. For example, unified API interfaces and data format specifications can simplify cross-departmental collaboration and increase productivity. Standardization also provides technical support for international cooperation, especially in global supply chains and cross-border trade.

4.2.2. Balance between ethics and efficiency of intelligent public services

The application of smart technology has improved the efficiency of public services, but it has also posed challenges

to ethics and fairness:

(1) Equity of coverage. Smart services should cover all social groups and avoid exacerbating social inequality due to the technological divide. For example, by promoting the construction of digital infrastructure, we can solve the problem of network access in remote areas.

(2) The dynamic balance between privacy and efficiency. Intelligent decision-making requires algorithmic transparency and data privacy protection. For example, when the government uses AI for targeted poverty alleviation, it should disclose the algorithm logic to ensure that the principle of fairness is complied with.

4.3. Case Study

4.3.1. Big data-driven governance practices in China

China has achieved remarkable results in big data-driven innovation in public management and governance:

(1) Application of health code in epidemic prevention and control. The health code system realizes accurate personnel flow management by integrating personal health information and action tracks. This system has helped the government effectively control the spread of the epidemic while optimizing the allocation of resources. The widespread use of health codes has also sparked discussions about privacy protection and data security, prompting the Chinese government to accelerate the development of a legal framework for data governance.

(2) "City Brain" project. Hangzhou's "City Brain" uses artificial intelligence, big data, and Internet of Things technologies to monitor the city's traffic flow in real time and dynamically optimize traffic light control. The system significantly reduces traffic congestion, improves the efficiency of urban operations, and provides an empirical reference for the construction of smart cities around the world.

(3) Smart medical care. China has achieved the optimal allocation of medical resources through big data analysis. For example, during the pandemic, patient prediction models based on big data helped hospitals prepare for emergencies in advance, significantly improving the response speed of medical services.

4.3.2. Innovation in European data privacy protection and governance philosophy

Europe is uniquely positioned to innovate in data privacy protection and governance:

(1) Implementation of the General Data Protection Regulation (GDPR). The GDPR imposes strict compliance requirements on the collection, processing, and storage of data, ensuring the security and privacy of citizens' data. The GDPR also sets the benchmark for privacy around the world by requiring companies to be transparent about how they use their data and giving citizens the right to delete their data.

(2) Governance transparency and citizen participation. By establishing a public data platform, Europe has increased transparency in policymaking and increased citizen trust in the governance process. For example, the European Commission has established a transparency review mechanism in AI projects to ensure that projects are designed in accordance with ethical standards and avoid algorithmic bias.

Table 2. Comparison of governance models

Comparison Of Governance Models

	Dimension	State-Led Governance	Collaborative Governance
1	Efficiency	High	Moderate
2	Privacy Protection	Moderate	High
3	Transparency	Moderate	High
4	Flexibility	Low	High

Table 2 compares the performance of the state-led governance model with the collaborative governance model in terms of efficiency, privacy protection, transparency, and flexibility. The table shows the advantages and limitations of each of the two models, and provides a clear reference for selecting a governance model suitable for new quality productivity.

5. Conclusion and Prospects

5.1. Main Conclusion

5.1.1. The New Qualitative Productive Forces Require a Dynamic Adjustment of the Political and Philosophical Foundations

With the development of new qualitative productive forces, traditional political philosophy is facing many adaptive challenges, which need to be dynamically adjusted:

(1) The problem of adaptation of liberalism. Liberalism faces a dilemma in balancing data privacy, individual rights and social interests, and needs to redefine the boundaries of individual rights and data sharing rules.

and (2) the ethical dilemma of utilitarianism. Utilitarianism focuses on overall efficiency, but it is easy to ignore the rights and interests of minorities in algorithmic governance, and a more diversified value system needs to be introduced.

(3) Expansion of social contract theory. With the embedded application of technology, social contract theory needs to cover a new dimension of data sharing and technology ethics to achieve a dynamic balance between collective interests and individual rights.

5.1.2. The combination of philosophy and technology is the key to innovation in public management

The combination of philosophy and technology not only provides theoretical support for governance system innovation, but also provides guidance for the fairness and ethical compliance of technology application:

(1) The guiding role of technology ethics. Algorithmic transparency, fairness, and accountability have become core ethical issues in intelligent governance. Philosophy provides an important value reference for the application of technology.

(2) Reconstruction of public management model. Technology-driven innovation in public management needs to be based on philosophy to ensure that governance models are not only efficient, but also focused on social equity and civic rights.

5.2. Research Limitations

5.2.1. The universality verification of the theoretical model needs to be expanded

The theoretical model proposed in this paper is mainly based on the case studies of a few typical countries, and the universality verification needs to be further expanded:

(1) Geographical limitations. This study mainly focuses on China and Europe, and the new qualitative productivity management models in other regions, especially in developing countries, have not been fully studied.

(2) Institutional differences. The comparative analysis of democratic and centralized governance models does not cover more diverse political systems and social backgrounds, and the applicability of the model needs to be further verified.

5.2.2. Uncertainty in future technological developments affects the stability of conclusions

The development of future technologies is highly uncertain, and this unpredictability has a potential impact on the stability of the research conclusions. Technological breakthroughs, the emergence of emerging technologies, and the lag in the pace of social adaptation are likely to change the scope of current data governance and ethical issues, thus putting forward new requirements for governance models and theoretical frameworks.

(1) The impact of technological breakthroughs. Rapid breakthroughs in technology could fundamentally change the logic of social governance and the way data is used. For example, AI mainly relies on big data and algorithm optimization at this stage, but if future algorithms can get rid of big data dependence and achieve autonomous learning, the existing data governance framework will face major adjustments. In addition, technological breakthroughs may lead to leaps in governance efficiency, but they may also give rise to new ethical controversies, such as whether unmanned decision-making systems can be given sufficient transparency and accountability.

(2) The development of emerging technologies. The rapid development of emerging technologies such as quantum computing and biotechnology is redefining the boundaries of what is possible in technology. These technologies could have a disruptive impact on data governance and ethics: quantum computing can significantly improve data processing capabilities, but its computing power may threaten existing data encryption and privacy protection mechanisms, redefining the technical framework for privacy protection. In the context of the deep integration of data and bioinformatics, ethical issues will be further complicated, such as the sharing and use of genetic data that may challenge existing privacy and ethical norms.

(3) the lag of social adaptation. The pace at which society and policy adapts to technological developments often lags behind the actual development of technologies, and this lag can have a negative impact on the effectiveness of governance models. The rapid iteration of emerging technologies may lead to the lag of the rules of the governance system. The rapidly changing technological environment may lead to a "window period" in laws and regulations, making it impossible to effectively regulate the application of new technologies. It takes time for society to become aware of and accept technology, for example, the use of smart technology in decision-making may be difficult to promote due to a lack of public trust.

(4) the challenge of coordination between technology and policy. There is a natural dissonance between the speed of technological development and the stability of governance systems. How to balance technological innovation and institutional stability is an important direction for future research. For example, in the face of the rapid development of artificial intelligence, policymakers need to ensure social equity and ethical compliance while supporting the development of the technology. Failure to adapt governance models to respond to technological change can lead to a loss of social trust and inefficient policy implementation.

In conclusion, the uncertainty of future technological development requires the research conclusions to remain dynamic and open, and the complex relationship between technology, ethics and social adaptation needs to be further explored to formulate more forward-looking governance strategies.

5.3. Future Research Directions

Future research should focus on the dynamic evolution of technology ethics, emphasizing the exploration of ethical adaptability in diverse social and cultural contexts. From a multicultural perspective, it is essential to study how different cultural backgrounds influence technology ethics and to construct a cross-cultural technology ethics framework. Additionally, efforts should aim at improving ethical evaluation mechanisms, such as algorithm audits and ethics committees, and examining their practical effectiveness in technology applications. Simultaneously, the construction of a global governance system demands a deep integration of technology and philosophy to address transnational challenges arising from new-quality productivity. This includes exploring the philosophical foundations of international cooperation, such as the ethical and value principles underlying data sharing, privacy protection, and technological standardization, to provide theoretical support for international governance frameworks. Furthermore, multilateral cooperation mechanisms should be leveraged to promote fairness and consistency in governance systems on a global scale.

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