Legitimacy and Limits of Administrative Power in the Big Data Era

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Abstract: The advent of the big data era has profoundly transformed the exercise of administrative power, enhancing the efficiency and accuracy of administrative decisions while simultaneously posing challenges to legitimacy and the potential for abuse of power. This study examines the impact of big data technology on administrative power, systematically analyzing the foundations and limits of administrative power's legitimacy. It explores how to achieve a balance between legitimacy and limits of administrative power in the context of big data. By examining the intersection of traditional theories of power legitimacy and big data technology, the study proposes strategies for enhancing transparency in administrative decisions, strengthening public participation, and promoting inter-departmental cooperation. It also looks forward to innovative paths for exercising administrative power in the future. The results of this study are significant for both administrative management practices and theoretical development in the big data era.

Keywords: Big Data Era; Administrative Power; Legitimacy; Power Limits; Balancing Strategies; Data Governance

Introduction

With the rapid development of big data technology, administrative management has undergone profound changes, redefining the boundaries and legitimacy standards of power. Traditionally, the legitimacy of administrative power relies on the balance between legal norms and public interest. However, the information monopoly and data-driven decision-making of the big data era have introduced new challenges of power concentration and public trust crises. Therefore, this study aims to explore how to maintain and enhance the legitimacy of administrative power and effectively limit its exercise in the context of big data. By analyzing the interaction between traditional legitimacy theories and big data technology, this research will reveal the challenges and opportunities faced by administrative power in the new era and propose corresponding balancing strategies to guide theoretical advancement and administrative management practices.

1. Background and Significance of Administrative Power in the Big Data Era

1.1 Emergence of Big Data Technology and Transformation of Administrative Power

The emergence of big data technology marks significant progress in the information age, centered on the collection, analysis, and application of vast amounts of data. This has profoundly impacted the exercise of administrative power. Traditionally, administrative management relied on limited data and experience, with decision-making often constrained by information asymmetry and inefficiency. Big data technology enhances decision-making by integrating and analyzing multi-source data in real-time, making it more accurate, rapid, and efficient, thus significantly improving the effectiveness and responsiveness of administrative power.

Big data has driven a profound transformation in administrative power. On one hand, data-driven decision-making has become a crucial tool, allowing administrative agencies to formulate more scientific and comprehensive policies. On the other hand, the concentration and monopoly of data have strengthened administrative power's advantage in information acquisition and control, creating a new power structure. This shift not only redefines the exercise of administrative power but also introduces new challenges related to legitimacy and oversight.

1.2 Characteristics and Challenges of Administrative Management in the Big Data Era

Administrative management in the data era exhibits several notable characteristics: the mainstreaming of scientific and data-driven decision-making, increased centralization of administrative power, and enhanced information control capabilities due to data aggregation. However, this also brings risks of excessive power concentration and abuse. Additionally, data privacy protection and the safeguarding of citizens' rights have become new governance challenges. Concurrently, administrative management faces legitimacy crises, risks from technological dependence, and social inequalities due to information asymmetry. Balancing the advantages of big data while ensuring fairness and credibility in the exercise of power is a pressing issue that needs to be addressed.

1.3 Importance and Necessity of Research on Administrative Power in the Big Data Era

In the big data era, researching the legitimacy and limits of administrative power is crucial. The widespread use of big data technology has fundamentally changed the way administrative power is exercised, and traditional power structures and legal frameworks may struggle to address these changes. Such research helps to clarify the boundaries and responsibilities of power, ensuring the legality and reasonableness of administrative actions. Additionally, the increased centralization of administrative power heightens the risk of abuse, and studying its limits can help prevent potential crises and provide theoretical support for formulating laws, regulations, and oversight mechanisms to protect citizens' rights.[1]

Currently, research on big data and administrative power is still in its early stages, with a disconnect between theory and practice. A systematic study of this field will not only enhance the theoretical framework but also provide practical guidance for administrative management, advancing government governance modernization. Therefore, in-depth exploration of the legitimacy and limits of administrative power in the big data era is of significant practical importance for promoting the rule of law and improving public management efficiency.

2. Establishing the Legitimacy and Limits of Administrative Power in the Big Data Era

2.1 Traditional Theoretical Foundations of Administrative Power Legitimacy

2.1.1 Legitimacy of Power and Legal Norms

Traditionally, the legitimacy of administrative power relies on clear legal authorization and constraints. According to Weber's theory, legitimate power must receive recognition from those governed, typically manifested through legal forms. In modern rule-of-law countries, the exercise of administrative power must strictly adhere to legal regulations; any actions exceeding legal authority are considered illegal and may lead to public skepticism about governmental authority. Legal norms provide a clear framework for the exercise of administrative power and ensure its legitimacy through judicial review and oversight mechanisms.

In the big data era, although technological innovations offer more convenience and efficiency in administrative management, the legitimacy of administrative power must still be based on legal norms. The application of big data technology should be guided and regulated by relevant laws to ensure it operates within the legal framework, thus preventing abuse and overreach of administrative power. Therefore, an in-depth exploration of the exercise of administrative power in the context of big data must first return to the traditional constraints of legal norms on power legitimacy to ensure the legitimacy and societal acceptance of power.

2.1.2 Public Interest and Democratic Governance

Public interest is another core foundation of administrative power legitimacy. Within a democratic governance framework, the legitimacy of administrative power not only stems from legal authorization but must also serve the public interest. The theory of public interest asserts that the primary duty of administrative agencies is to safeguard the overall welfare of society rather than the private interests of specific groups. In democratic systems, the exercise of administrative power must align with public will and ensure legitimacy through broad societal participation and democratic processes.

The introduction of big data technology provides new tools and means for realizing public interest but also presents new challenges. In an information-driven context, ensuring that administrative

decisions fully consider public interest and avoid power abuse due to data and technological advantages is a pressing theoretical and practical issue. Therefore, research on administrative power in the big data era must revisit the concept and implementation paths of public interest and explore how to uphold the fundamental principles of democratic governance in a technology-driven environment.

2.2 Legal Constraints on the Limits of Administrative Power in the Big Data Era

2.2.1 Legal Framework and Principles of Data Governance

In the big data era, data governance has become a crucial component of administrative management, and the legal framework and principles of data governance are essential for regulating the exercise of administrative power. The legal framework for data governance aims to comprehensively regulate data collection, storage, processing, and use through explicit laws and regulations, ensuring that the exercise of administrative power does not exceed the legal boundaries.

This legal framework includes not only traditional administrative laws but also emerging legal fields such as data protection and privacy laws. These laws provide institutional safeguards for the legitimacy of administrative power and impose new requirements on its exercise. For instance, during data collection, administrative agencies must adhere to principles of legality, legitimacy, and necessity, ensuring that data use aligns with public interest and social justice. By establishing and improving the legal framework for data governance, administrative power can be effectively constrained, preventing excessive expansion in the big data era.

2.2.2 Data Privacy Protection and Citizen Rights Safeguards

Data privacy protection is an important dimension of administrative power legitimacy in the big data era. With the widespread use of big data technology, the collection and use of citizens' personal information have become increasingly extensive. It is crucial to protect citizens' data privacy in the exercise of administrative power, making it a significant standard for assessing the legitimacy of power.[2]

In this context, strengthening legal construction for data privacy protection is necessary. This involves developing and refining relevant laws and regulations to clarify the rights and responsibilities of administrative agencies in data use, ensuring basic rights for citizens. Specifically, administrative agencies must follow the principle of data minimization during collection and processing, ensuring that data use does not exceed necessary boundaries and does not infringe on citizens' privacy rights under any circumstances. Additionally, a sound redress mechanism should be established to ensure timely and effective legal remedies for citizens in case of privacy violations, thus safeguarding the legitimacy and social justice of power exercise.

2.3 Ethical and Social Responsibility Limits of Administrative Power

2.3.1 Data Ethics and Administrative Decision-Making

The exercise of administrative power in the big data era should not only be legally constrained but also follow certain ethical principles. Data ethics, as an emerging discipline, explores the moral issues associated with data use, ensuring that data applications do not have negative societal impacts. In administrative decision-making, data ethics requires that administrative agencies fully consider the overall societal impact of using big data technology, avoiding social injustice and harm to public interest due to data misuse or abuse.[3]

Specifically, administrative agencies should adhere to basic ethical principles of transparency, fairness, and justice in decision-making, ensuring that data use does not result in discriminatory impacts on specific groups. Additionally, attention should be paid to the accuracy and reliability of data to prevent erroneous decisions caused by data defects or biases. By strengthening data ethics, the exercise of administrative power can be effectively regulated, ensuring that it maintains social justice and public interest in a technology-driven context.

2.3.2 Social Participation and Oversight of Administrative Power

Social participation is a crucial means of limiting administrative power and ensuring its legitimacy. In the big data era, although administrative agencies have significant advantages in data control, broad public participation and oversight remain key to ensuring the legitimacy of power exercise. Social participation not only enhances the democratic nature of administrative decisions but also helps prevent

power abuse and corruption through public oversight.

To achieve effective social participation, corresponding mechanisms must be established and improved to ensure that the public can fully understand and engage in the administrative decision-making process. For example, data disclosure platforms can be used to increase transparency in administrative management, allowing the public to access and oversee government actions in real-time. Additionally, public opinions and suggestions should be encouraged through various channels to participate in discussions and evaluations of administrative decisions, thus forming a diversified oversight system. These measures can effectively check the exercise of administrative power in the big data era, ensuring its legitimacy and societal acceptance.

3. Balancing Administrative Power Legitimacy and Limits in the Age of Big Data

3.1 Transparency and Accountability Mechanisms in Administrative Power Exercise

3.1.1 Enhancing Data Openness and Transparency

In the age of big data, the legitimacy of administrative power heavily relies on the transparency of government actions and the extent of data openness. To prevent the misuse of power in a technology-driven environment, enhancing data openness and transparency has become an indispensable strategy. Improving transparency not only boosts government credibility but also effectively curtails power abuse, thereby upholding social fairness and justice.

The pathways to enhancing data openness and transparency include establishing robust information disclosure systems, ensuring that key stages of data collection, processing, and application are open to the public. Additionally, modern information technologies can be utilized to build data-sharing platforms, enabling real-time data disclosure and multi-party supervision. It is also crucial to strengthen the awareness and capability of government staff regarding information disclosure to ensure effective implementation of data openness initiatives. Through these measures, the government can achieve a higher level of transparency, providing a solid foundation for the legitimacy of administrative power.[4]

3.1.2 Establishing Effective Accountability and Supervision Systems

Increased transparency requires effective accountability mechanisms. In the age of big data, the accountability and supervision systems for administrative power need to integrate technological tools to address the complex and changing governance environment. Accountability mechanisms must ensure that power is exercised in compliance with legal and ethical standards, while also employing social oversight and legal means to promptly address any potential misuse of power.

The core of establishing an effective accountability and supervision system lies in creating a multi-tiered oversight network. Firstly, internal accountability mechanisms should be improved, including various forms of administrative oversight, auditing, and disciplinary inspections. Secondly, external oversight mechanisms need to be strengthened, encompassing the roles of news media, non-governmental organizations, and individual citizens. Additionally, automated accountability systems supported by information technology should be introduced to detect and address potential issues in power exercise through data analysis and risk alerts. By constructing such a system, the legitimacy of administrative power can be effectively maintained, ensuring its operation within a transparent and open environment.

3.2 The Role of Public Participation in Administrative Decision-Making

3.2.1 Data Democratization and Public Participation Mechanisms

Data democratization refers to the process of opening up data resources and tools to enable citizens to participate broadly in administrative decision-making, thereby enhancing the democracy and credibility of governance. In the age of big data, public participation is not only a foundation for the legitimacy of administrative decisions but also a necessary condition for achieving fair and effective governance.

To achieve data democratization, it is essential to establish public participation mechanisms that allow citizens to access and understand government-released data through appropriate channels. This can be accomplished through online platforms, public data portals, and other forms of access. Moreover, governments should encourage the public to use data for analysis and feedback, providing diverse

perspectives for administrative decisions. Through these measures, citizens can more directly engage in policy formulation and implementation, thereby enhancing the transparency and legitimacy of administrative decisions.

3.2.2 Application of Citizen Feedback in Administrative Governance

Citizen feedback is a critical source of legitimacy for administrative decisions. By systematically collecting and analyzing citizen opinions, governments can better understand societal needs and adjust administrative actions to ensure the scientific and equitable nature of policies. In the age of big data, the collection and processing of citizen feedback can be significantly enhanced through technological means.[5]

To effectively apply citizen feedback, governments first need to establish convenient feedback channels, such as social media platforms, online surveys, and opinion collection systems. Furthermore, governments should utilize data analysis technologies to systematically organize and analyze feedback information, identifying potential issues and areas for improvement. Additionally, the results of citizen feedback should be made transparent and used to inform policy adjustments, allowing the public to perceive the value and significance of their participation. Through these measures, citizen feedback can play a better role in administrative governance, enhancing the legitimacy and rationality of power exercise.

3.3 Cross-Departmental Cooperation and International Experience

3.3.1 Cross-Departmental Data Sharing and Collaborative Governance

In the age of big data, cross-departmental cooperation is crucial for enhancing administrative efficiency and ensuring the legitimacy of power. Data sharing and collaborative governance can optimize resource allocation and improve the ability to address complex issues. By sharing data across departments, the government can gain a comprehensive understanding of social dynamics, avoid information silos, and enhance the scientific and precise nature of policy formulation. This approach also reduces redundant data collection and processing time, improves administrative efficiency, and strengthens inter-departmental coordination to ensure policy implementation consistency.

The key to achieving data sharing lies in establishing a unified data-sharing platform and formulating clear cooperation agreements. The platform needs to ensure data security and privacy protection during the sharing process, while the agreements should outline the scope, usage, and responsibility of data sharing to ensure legal and compliant use. Cross-departmental collaborative governance also requires the establishment of coordinating institutions or task forces to promote information sharing and collaboration, effectively addressing issues involving multiple departments and improving policy execution coordination and responsiveness, thereby enhancing the legitimacy of administrative power.

3.3.2 Leveraging International Data Governance Experience and Localizing Applications

Drawing on successful international data governance experiences can provide valuable references for the legitimacy and limits of administrative power domestically. The European Union's General Data Protection Regulation (GDPR) offers high-level protection for personal data, with strict data processing and privacy protection measures that serve as important references for improving data privacy protection in China. The United States' data protection and privacy policies emphasize flexibility and market orientation, promoting data governance innovation through collaboration between the government and enterprises, which provides useful insights for China's market-oriented data governance model.

When localizing international experiences, it is important to adapt them to China's specific national conditions, formulating data governance laws and policies that ensure effectiveness and feasibility. At the same time, incorporating international technological and managerial innovations can advance domestic data governance technologies and management capabilities to meet evolving governance needs. Through cross-departmental cooperation and the adoption of international experiences, data governance levels can be effectively improved, enhancing the legitimacy and effectiveness of administrative power and supporting governance needs in the age of big data. [6]

Conclusion

In the era of big data, while administrative power enhances efficiency, it also faces legitimacy crises and abuse risks. This study systematically analyzes the challenges posed by big data to the legitimacy of administrative power and the establishment of its limits. The research indicates that strengthening legal constraints, improving transparency and accountability mechanisms, promoting citizen participation, and fostering cross-departmental collaboration can effectively balance the legitimacy and limits of administrative power.

As big data technology continues to advance, the exercise of administrative power will continue to innovate. Future research should focus on the application of emerging technologies in administrative management, especially their potential in enhancing transparency and public trust. Additionally, dynamically adjusting the standards and limits of power legitimacy will be crucial for adapting to the rapidly changing social and technological environment. Through ongoing theoretical exploration and practical feedback, future administrative management is expected to achieve a more rational and legitimate model of power exercise.

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