



Research on the application of Artificial Intelligence in Public Administration

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Abstract. With the continuous progress of science and technology and the continuous development of the society, the administrative management field is also facing more and more challenges and needs. The emergence of artificial intelligence technology is a double-edged sword, which has important theoretical and practical value for guiding the rational application of artificial intelligence in public management. Through the overview of administrative application of artificial intelligence and practice, the analysis of the legitimacy of administrative decisions, administrative enforcement integrity and the effectiveness of administrative supervision risk, put forward the specific risk law regulation path, for the administrative management application provide reference for the healthy development of artificial intelligence and decision-making basis, to promote administrative legitimacy, safeguard administrative law enforcement integrity and improve administrative supervision effectiveness has guiding significance.

Keywords: Artificial intelligence, public management, risk, and legal regulation path

1 Introduction

This study discusses the application of artificial intelligence in public management, analyzes its risks, and puts forward the corresponding legal regulation path. As an emerging technology, artificial intelligence has been widely used in the field of administrative management. In this context, fully understand and accurately evaluate the application of artificial intelligence in public management risk and regulation of artificial intelligence application in public management has guiding significance, help to promote the healthy development of administrative application of artificial intelligence, and to enhance the legitimacy of administrative decision-making, safeguard the integrity of administrative law enforcement and improve the effectiveness of administrative supervision to provide useful reference and decision-making basis. Innovation is put forward a risk legal regulation path, in response to the administrative application of the risk of artificial intelligence, through the combination of theoretical research and empirical research, put forward the specific regulation path, help to improve the legitimacy of administrative decision-making, safeguard the integrity of the administrative law enforcement, and improve the effectiveness of administrative supervision.

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This is of great significance for promoting the process of the application of artificial intelligence in administrative management, providing reference and guidance for relevant departments and institutions, so that it can play its due role of artificial intelligence on the basis of legality and compliance.

2 An Overview of the administrative application of artificial intelligence

2.1 Analysis of artificial intelligence and related concepts

As the basis of artificial intelligence, and as the core of artificial intelligence technology, the application of big data in administrative management is of great significance.^[1] By selecting the appropriate algorithms, optimizing and improving the algorithms, the operation effect and decision-making ability of the AI system in the administrative management can be further improved. In the process of algorithm design and application, the key elements such as fairness, legality and supervision must be fully considered to ensure the public management effect and social benefits of the application of artificial intelligence.^[2] Therefore, when the application of artificial intelligence in administrative management, corresponding risk regulation measures should be taken to ensure that it realizes more efficient and intelligent administrative management on the basis of legality and compliance.^[3]

2.2 The practice of applying artificial intelligence in administrative management

The practice of administrative application of AI has a wide range of application fields and great potential.^[4] By using AI technologies such as natural language processing, machine learning, data mining, and pattern recognition, administrative agencies can improve work efficiency, optimize decision-making effects, and strengthen supervision and management.^[5] At the same time, it should also clearly recognize the risks and challenges faced by the application of artificial intelligence in administrative management, and formulate corresponding legal and regulatory measures to ensure that the application of artificial intelligence in administrative management can play its due role on the basis of legality and compliance.

2.3 The necessity of the regulation of the administrative application of artificial intelligence

In the decision-making process, artificial intelligence mainly relies on algorithms and models, and lacks human subjective judgment and flexibility.^[6] The administrative discretion may be weakened. The special subject status of artificial intelligence in administrative management should be confirmed, and its role as an auxiliary tool should be clarified. Secondly, in order to avoid the possible separation of law enforcement power and responsibility, and law enforcement personnel may no longer be

responsible for their decisions, it is necessary to strengthen the legitimacy of administrative decision-making, promote the openness of administrative decision-making information, and ensure the public's understanding and participation in the decision-making process.^[7] In addition, the inability to make reasonable explanations and statements in the decision-making process leads to problems that affect the effectiveness of administrative supervision. We should improve the system of administrative explanation, allow the public to intervene in the algorithm impact assessment, strengthen listening to the statements and arguments of the parties, and promote the application of administrative consultation. To sum up, by strengthening the legitimacy of administrative decision-making, ensuring the integrity of administrative law enforcement power and improving the effectiveness of administrative supervision, the healthy development of artificial intelligence in administrative management application can be realized, and provide guidance and basis for its reasonable application.^[8]

3 Risk analysis of the artificial intelligence applied in administrative management

3.1 Reduce the legitimacy of administrative decisions

3.1.1 Artificial intelligence does not have legal decision-making authority.

The decision-making of artificial intelligence system is mechanical and procedural, and there are certain risks in the application of administrative decision-making. On the one hand, since the decision of AI system is based on the analysis of algorithms and data, some unstructured information and background knowledge may be ignored, leading to one-sidedness and comprehensiveness of decisions.^[9] On the other hand, since the choice of algorithms and the setting of parameters depend on the subjective will and technical ability of the developers, there may be some bias and compensation. These problems have a certain impact on the legitimacy and fairness of decision-making.

3.1.2 The algorithm black box avoids the decision information disclosure procedure.

The phenomenon of Algorithm black box refers to the phenomenon that the decision process and reasoning logic of the algorithm cannot be fully understood and explained in the artificial intelligence system. First of all, the phenomenon of algorithm black box makes the procedure and basis of administrative decision cannot be supervised and constrained by the traditional decision-making transparency mechanism.^[10] The decision makers cannot clearly understand how the algorithm reasons and judges based on the data, the public and relevant stakeholders cannot fully understand the basis and process of the decision making, and cannot supervise and evaluate the rationality and legitimacy of the decision making. Second, the algorithmic black box phenomenon may lead to the unpredictability and unfairness of decision outcomes. Due to the characteristics of the algorithm black box, the outcome of the decision may be affected

by some uncertain factors and hidden preferences, which leads to the instability and unpredictability of the decision results.

3.2 Damage to the integrity of the administrative law enforcement power

3.2.1 Dismember the administrative discretion.

Administrative discretion is a unique power in administrative management. Administrative organs can freely decide their own contents and methods of administrative acts on the basis of the specific situation without strict provisions by law.^[11] However, in the context of the application of artificial intelligence in administrative management, the administrative discretion faces the risk of dismembering.

First of all, the algorithm of artificial intelligence determines the consistency and no difference of its execution tasks. When using artificial intelligence to make decisions, the administrative organs may face less discretion space compared with the traditional administrative discretion. Secondly, the application of artificial intelligence may weaken the ability of administrative organs to grasp the specific details and special circumstances of cases.^[12] Because the way that artificial intelligence processes data is based on the statistical law of big data, and does not pay much attention to the analysis of special circumstances, it may be difficult for administrative organs to fully understand the specific situation and background of the case when using artificial intelligence to make decisions, which leads to the bias and injustice of administrative decisions. In addition, the lack of transparency in the AI decision-making process may make it difficult to review and hold accountable the exercise of administrative discretion. Therefore, when administrative organs use artificial intelligence to make decisions, the legitimacy and rationality of their decision-making are difficult to be understood and judged by external supervision organs and the public, and the administrative discretion of administrative organs is faced with the risk of losing supervision and restraint.^[13] To sum up, the administrative application of AI may dismember the administrative.

3.2.2 The destruction of the law enforcement power shall not be punished.

The destruction of law enforcement power is one of the risks of administrative application of artificial intelligence.^[14] The inability of administrative law enforcement power refers to the independence and discretion of administrative law enforcement organs exercising administrative law enforcement power according to law. However, the application of artificial intelligence may damage the impossibility of administrative law enforcement power. First of all, the non-disposition of the administrative law enforcement power is restricted by the artificial intelligence algorithm, which leads to the non-traceability of the administrative law enforcement decisions, so that the administrative law enforcement organs cannot really understand the specific operation mechanism and decision-making basis of the algorithm when exercising the law enforcement power, and cannot directly adjust and intervene. In this case, the impossibility of administrative law enforcement power has been eroded, and the discretion of administrative law enforcement organs has become unclear. Secondly, the application

of artificial intelligence in administrative management often automates the process of administrative law enforcement and reduces the opportunities and process of manual intervention. When the artificial intelligence algorithm produces wrong decisions or law enforcement results, it is difficult for the administrative law enforcement organs to investigate and adjust them, and the administrative law enforcement power cannot be combined with the corresponding responsibility, which leads to the separation of the administrative law enforcement power and responsibility.

3.2.3 Separation of law enforcement power and responsibility.

In the risk analysis of administrative AI, the separation of law enforcement power and responsibility is an important issue. First, the application of AI may lead to a weaker or broken correlation between law enforcement agencies and law enforcement outcomes.^[15] Traditionally, law enforcement agencies have direct responsibility for law enforcement decision-making, but in the case of AI application, the operation and decision-making of algorithms may not be fully understood and controlled by law enforcement agencies, and the responsibility of law enforcement agencies for law enforcement results may become vague and difficult to trace. Second, the application of AI may cause difficulties in sharing responsibilities between law enforcement agencies and AI systems. Therefore, how can law enforcement agencies reasonably share and assume the responsibilities related to artificial intelligence systems has become an urgent problem to be solved. In addition, the application of AI may also lead to restrictions on the evaluation and supervision of law enforcement results by law enforcement agencies. Due to the complexity and intelligence of AI systems, it will be difficult for law enforcement agencies to evaluate and monitor their decision-making processes and outcomes. This may lead to the failure of law enforcement agencies to detect and correct the errors or misconduct of AI systems in a timely manner, thus preventing law enforcement agencies to take responsibility for their actions.

3.3 Reduce the effectiveness of administrative supervision

3.3.1 Explain the reason for the system failure.

The reason system failure may lead to the invalidation of administrative supervision. First, the complexity and opacity of AI algorithms may make it difficult for administrative agencies to accurately state the basis and reasons for their decisions. In addition, some algorithms are designed as black-box models, and the administrative agencies cannot obtain their specific working methods and decision-making basis. These problems may lead to the failure of the administrative organs to provide sufficient reasons and weaken the effectiveness of administrative supervision. Secondly, because the administrative organs do not pay enough attention to the system of explaining the reasons, or the lack of effective institutional arrangements. In some cases, administrative organs may ignore or perfunctory to provide the basis and reason for decision-making, so that administrative supervision lacks the basis for evaluating the legitimacy and rationality of decision-making. To sum up, the failure of the reason system may lead to the ineffectiveness of administrative supervision. The complexity and

opacity of artificial intelligence algorithm and the lack of administrative attention to the reason system or the unreasonable institutional arrangement may lead to the failure of administrative organs to provide sufficient factual and legal basis, thus weakening the effectiveness of administrative supervision.

3.3.2 The lack of consultation degree weakens the effectiveness of supervision.

The lack of negotiation degree to weaken the effectiveness of supervision is one of the risks existing in the administrative application of artificial intelligence. First of all, the operation process of the AI technology algorithm is often complex and difficult to understand, which reduces the negotiation process to the acceptance or rejection of the results of the algorithm, without in-depth discussion and correction. Secondly, the decision-making process of artificial intelligence is usually based on big data, and the collection and processing of big data often involves sensitive information such as personal privacy and trade secrets, leading to the avoidance or restriction of the negotiation process. Finally, the lack of consultation will lead to unequal information between the supervisor and the supervised. Because the application of artificial intelligence may limit the extent of the understanding of the supervisor, leading to the information inequality in the supervision process. Therefore, in order to enhance the effectiveness of administrative supervision, we must strengthen the degree of consultation.

4 The risk legal regulation path of artificial intelligence

4.1 Strengthen the legitimacy of administrative decisions

4.1.1 Confirm the special subject status of artificial intelligence.

The application of artificial intelligence has caused a series of legal problems and risks in public management.^[17] In order to reasonably regulate the application of artificial intelligence, confirming the special subject status of artificial intelligence is a necessary step to reasonably regulate its application. By confirming its special subject status, a corresponding legal framework can be established, its responsibilities and obligations are defined, and the rights and interests of the public can be protected. Only when the particularity of artificial intelligence and its role in public management are fully realized can appropriate legal norms be formulated to promote the healthy development of artificial intelligence in public management.

4.1.2 Promote more public information on administrative decision-making.

The openness of administrative decision information is one of the important ways to ensure the legitimacy of administrative decision. First of all, the special subject status of artificial intelligence in administrative decision-making should be confirmed, that is, its role positioning and power and responsibility relationship in the decision-making process. Secondly, in the decision-making process of artificial intelligence, the system construction of information disclosure should be strengthened to ensure the transparency and fairness of the decision-making process. To be specific, relevant laws and

regulations can be formulated to clarify the scope, methods and duration of information to be disclosed, and corresponding information disclosure platforms and channels can be established to facilitate the public access to decision-making information. In addition, a relevant decision-making information protection mechanism should be established to ensure that confidential information is not abused and leaked. Finally, it is necessary to strengthen the supervision and evaluation of the disclosure of decision-making information, establish an effective supervision mechanism and evaluation system, and timely find and solve the problems and problems existing in the information disclosure.

Through the above path, it can effectively promote the openness of administrative decision information, enhance the legitimacy of decision-making, and improve the credibility of decision-making results. At the same time, it also helps to improve the social recognition and acceptance of the application of artificial intelligence in administrative management, and promote the scientific, standardized and democratic administrative decision-making.

4.2 Ensure the integrity of administrative law enforcement power

4.2.1 The application of artificial intelligence should follow the principle of proportion.

The principle of proportion means that when the administrative organ takes measures, the severity and intervention intensity of the measures should match the seriousness of the problem it solves. This principle is particularly important in AI applications. First, AI application involves intervention in individual rights and needs to ensure a balance of rights. Secondly, in the application of artificial intelligence, the administrative organs should take into account the different interests and needs of different groups, and carry out differentiated treatment. In addition, administrative agencies should take full account of the balance of risks and benefits to ensure that the application of AI systems is safe, effective and controllable.

4.2.2 Adhere to the unity of law enforcement power and responsibility.

Adhering to the unity of law enforcement power and responsibility is one of the important methods and measures to regulate the application of artificial intelligence in administrative management. In the background of the current application of artificial intelligence technology, the relationship between the traditional administrative law enforcement power and responsibility is facing new challenges. Due to the autonomy and uncertainty of artificial intelligence system, the exercise of administrative law enforcement power becomes more complex and difficult. Therefore, to clear the boundary of the administrative law enforcement power and responsibility, establish the responsibility of artificial intelligence application mechanism, strengthen the accountability mechanism of administrative law enforcement, in order to achieve law enforcement power and responsibility, establish the responsibility mechanism of artificial intelligence application, to ensure the legitimacy and effectiveness of adminis-

trative law enforcement, effectively protect the public interest, promote the scientific and standardized administrative management.

4.3 We will improve the effectiveness of administrative supervision

4.3.1 Optimize the system of administrative explanation of reasons.

To optimize the administrative explanation system, it is necessary to establish a clear responsibility system for decision-making explanation, improve the decision-making explanation procedure, draw lessons from foreign experience and practices, and strengthen the supervision and evaluation of the application of artificial intelligence in administrative management. Only by optimizing the system of administrative explanation of reasons, can the legitimacy and transparency of AI decision-making be ensured, so as to improve the efficiency and effectiveness of AI application in administrative management.

4.3.2 Algorithmic impact assessment allows for public intervention.

In the administrative application of AI, algorithm impact assessment allowing public intervention is an important measure. Due to the complexity and uninterpretability of artificial intelligence algorithms, their decision-making logic is often not understood by the general public, but these decisions directly affect the rights and interests of the public. In order to ensure the legitimacy and impartiality of the administrative application of AI, it is very necessary to allow the public to conduct the impact assessment of the algorithm. Through public participation, the transparency of the algorithm can be increased, the deviations and problems in the algorithm decision can be found and corrected in time, and diversified perspectives and viewpoints can be provided to enhance the democracy and legitimacy of administrative management, and promote the virtuous cycle of the application of artificial intelligence. This will provide a more sustainable and effective development path for the administrative application of AI, and also able to better protect the rights and interests of the public.

4.3.3 Promote the application of administrative consultation.

Administrative consultation is an important means to obtain opinions and reach consensus in the process of administrative decision-making. The participation of different stakeholders can provide diversified opinions and suggestions, and fully reflect the balance of the interests of all parties, thus enhancing the legitimacy and feasibility of decision-making. When applying AI in administrative management, promoting administrative consultation can also improve the transparency and openness of administration. Administrative application of artificial intelligence often involves sensitive decisions and information, which is easy to cause public doubts and distrust. By promoting the application of administrative consultation, the principles and application methods of artificial intelligence technology can be fully introduced to the public, the basis and procedures of decision-making can be explained, increase the public's understanding and trust in the application of artificial intelligence in administrative

management, and effectively prevent and solve the risks caused by information asymmetry and lack of transparency. Therefore, promoting the application of administrative consultation is a necessary measure for the administrative application of artificial intelligence. By introducing a consultation mechanism, the legitimacy, transparency and quality of administrative decisions can be improved, and possible risks and problems can be prevented and solved. Therefore, the government and relevant institutions should actively promote administrative consultation mechanisms and procedures, fully respect the reasonable demands and opinions of all parties, and ensure the fair, reasonable and sustainable development of artificial intelligence in administrative management.

5 Conclusion

Administrative application of artificial intelligence is a field with broad prospects. Through the in-depth study of the application of artificial intelligence in public management, the risk of administrative management and the corresponding legal regulation path are revealed.

In terms of strengthening the legitimacy of administrative decision-making, it is suggested to confirm the special subject status of artificial intelligence, and promote the openness of administrative decision-making information, so as to enhance the legitimacy of administrative decision-making. Ensuring the integrity of the administrative law enforcement power is another important issue. Artificial intelligence in administrative law enforcement should follow the principle of proportion, adhere to the unity of law enforcement power and responsibility, prevent artificial intelligence from destroying the illegality of law enforcement power, the separation of administrative discretion and the separation of law enforcement power and responsibility, so as to ensure the integrity of administrative law enforcement power. Finally, improve the effectiveness of administrative supervision. According to the research results, it is suggested to optimize the system of administrative explanation, allow the public to participate in the impact assessment of the algorithm, fully listen to the statements and arguments of the parties, and promote the application of administrative consultation, which can effectively solve the problems such as the failure of the explanation system and the insufficient degree of consultation to weaken the effectiveness of supervision, and improve the effectiveness of administrative supervision.

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