Research on Public Administration Based on Artificial Intelligence Technology

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Abstract. With the promotion of the fourth Industrial Revolution, artificial intelligence technology has been greatly developed. Artificial intelligence technology has been widely used in the field of public management. The development of the Internet has built a global village, the development of artificial intelligence is lighting up the wisdom of the global village. As the core force of the new round of scientific and technological revolution and industrial transformation, artificial intelligence has quickly accumulated previous experience, spawned a series of new services, new forms of business, new products, and cultivated new momentum of economic development. It has changed the existing way of life and production, and promoted the great improvement of economic and social development. In addition to these developments, we can also see that artificial intelligence has also played a very important role in the field of public management. With the development of artificial intelligence, more and more manufacturers and entrepreneurs project the long-term vision of construction on artificial intelligence, use artificial intelligence to serve society and public development. This paper discusses the development of artificial intelligence and public administration. This paper discusses the advantages and risks of artificial intelligence in public management and the future development trend.

Keywords: Artificial intelligence · public management · management and application

1 Introduction

With the continuous development of the tertiary industry, information technology has been widely improved. At present, people's living conditions are getting higher and higher, and computers have been developed and popularized. It can be said that in the 21st century, the Internet makes people more and more closely connected, and the distance between people and the Internet is becoming smaller and smaller. Through these we can find that the current people's life, production and future development problems cannot be separated from the application of Internet technology. With the development of artificial intelligence technology, people are curious about artificial intelligence technology. For artificial intelligence will bring people changes and development first launched a strong interest in development. Although artificial intelligence has been greatly developed at

present, it has not been applied to a specific field of in-depth research. After a series of discussions, this paper discusses the application of artificial intelligence in public management. It is hoped that through the development of artificial intelligence, public management will be more convenient and scientific, people's life and production will be more convenient and efficient, and people's sense of acquisition and happiness will be enhanced [1].

2 Specific Connotations of Artificial Intelligence and Public Administration

In fact, many contemporary people know artificial intelligence, but most people cannot really understand the meaning of artificial intelligence. People will have different views on artificial intelligence. So let's first talk about the first question today, that is, what is artificial intelligence? We have two different views on artificial intelligence, which we call two different artificial intelligence. The first is called strong artificial intelligence, and the purpose of this study is to develop something as smart or even smarter than people. This view is only widely held in the scientific, film and literary circles. Then the main feature of this artificial intelligence is that we must have a sense of autonomy. In artificial intelligence, the word autonomy is a very shocking word. Artificial objects can decide what to do and what to do? That is to say, this artificial intelligence has been out of human control, this is a very strong thing. The second is comprehensive or has reached or even exceeded the human level. These two basic characteristics are strong artificial intelligence. Then another artificial intelligence is relatively simple, just using machines to do something simpler that some people can do. One of the founders of artificial intelligence, the early Turing Prize winner, once defined artificial intelligence, he said. Artificial intelligence is the science of allowing machines to accomplish things that require intelligence if done by people. The meaning of this sentence is very round and difficult to understand. But in general, artificial intelligence is a subject that studies computers to simulate some people's thinking and behavior, mainly including some principles of computer intelligence, making computers similar to human brains. Make the computer obtain higher level application. It is a new science used to study and develop theoretical methods and techniques for simulating the extension and expansion of human intelligence and application systems [2].

Public management is a kind of management idea and form which is aimed at the defects of government management. On the one hand, it emphasizes the fairness of management objectives, that is, public power must belong to the function of public office. On the other hand, it emphasizes the supervision, restriction and regulation of public power. Public management is the management of public affairs, which is the starting point of public management. This determines that public administration is an inevitable form of public management. In recent years, some related problems of public management have been deeply studied in domestic academic circles, and some gratifying achievements have been made. On the whole, public management is still a very new subject, and the development of public management is still in its infancy (Table 1).

Table 1. Technology and Application Breakthrough of Artificial Intelligence Industry

Technology and Application Breakthrough of Artificial Intelligence Industry	
Age	Development
2006	Learning is proposed, artificial intelligence breaks through again.
2010	Mobile Internet development, artificial intelligence application prospects are broader.
2012	The rapid growth of financing scale makes artificial intelligence commercialized.
2013	Deep learning algorithms have made breakthroughs in computer vision and speech recognition.
2016	Google, Microsoft and other Internet giants have joined the battlefield of artificial intelligence.
2017	Google has developed artificial intelligence robots.
2018	Artificial intelligence financing scale exceeded 100 billion yuan.

3   Value Analysis of Artificial Intelligence in Public Management

In the study of public management, we must always be clear that the greatest value of public management lies in its publicity. We apply artificial intelligence to public management in order to improve people's quality of life, improve the public value of public management, and serve the people's good life. General Secretary Xi Jinping has said that it is necessary to use big data to improve the modernization level of the country, to establish and improve the mechanism of big data to assist scientific decision-making and social governance, and to promote the innovation of government management and social governance models. And to achieve scientific social governance of government decision-making precision public service efficiency. In addition to these, in a series of subsequent meetings, the improvement of the public service system is an important means to promote the equality and accessibility of basic public services. The establishment and improvement of internet information technology can strengthen the rules of administrative system, promote the construction of digital government, strengthen the development of artificial intelligence, better serve the government, serve the people and serve socialism. Improve people's needs and yearning for a better life.

With the development of Internet information technology and artificial intelligence, the application of artificial intelligence to public management has a great role. It helps to improve the service level of public service and management, which is mainly manifested in the following aspects [3].

3.1   Improving Public Service Efficiency

In the current development of tertiary industry, there are obvious deficiencies in the labor force of some industries. The current efficiency of public services has been affected to a certain extent. Technology such as artificial intelligence and big data observation can easily break down labor barriers and departmental barriers, innovate new means of public service, and then improve the efficiency of public service. For example, in this

Scale	Observation variables	Potential variables	Estimate	AVE	CR
Digital technology applications	s21	digitization	0.828		
	s22	digitization	0.886	0.679	0.864
	s23	digitization	0.839		
	s41	networking	0.878		
	s42	networking	0.885	0.676	0.862
	s43	networking	0.757		
	s31	intelligentize	0.877		
	s32	intelligentize	0.851	0.656	0.851
	s33	intelligentize	0.879		
Public service status	x1	information symmetry	0.881		
	x2	information symmetry	0.899	0.727	0.889
	x3	information symmetry	0.859		
	J1	collective action	0.909		
	J2	collective action	0.904	0.643	0.843
	J3	collective action	0.727		
	G1	supply and demand	0.929		
	G2	supply and demand	0.945	0.711	0.881
	G3	supply and demand	0.869		

Fig. 1. Validation factor analysis results (original data)

new outbreak of the new crown epidemic. Artificial intelligence technology has a very large role. On the Internet, people through online communication to publish epidemic information and knowledge training, through a series of wired communications to carry out information exchange and do a good job of observation and prevention services. This greatly reduces the input of labor force, and effectively prevents the spread and development of the new crown epidemic, and provides a huge development environment for the prevention and control of the epidemic. In this case, it also reduces the spread of the epidemic, reduces the time of investigation, and saves a series of social resources.

Artificial intelligence plays an important role in public management, among which digitization is particularly important in the development of artificial intelligence. In order to verify the development of artificial intelligence in public management, a series of questionnaires were carried out. With the retention of the valid questionnaire, the structure and dimension division of the formal questionnaire are determined by testing, and the formal questionnaire is verified and analyzed. The results are shown in the Fig. 1. From the Fig. 1, we can see that quality technology is divided into three dimensions, that is, intelligence, digitization and networking. In this case, we get that there is a strong correlation between the observed amount and the latent variable between each dimension. We can see from the average variance extraction value and the construction information value that the CR values of the seven latent variables in the table are all greater than 0.7 and the AVE value is greater than 0.5. From these data, we can see that artificial intelligence plays a great role in the development of public management, and it will play a more important role in the future.

3.2   Improving the Effectiveness of Public Management Decisions

In the discussion of a series of public service fields, the effectiveness of decision-making is the core content of public management service field. Because of the limitation of collecting information, traditional public service decision-making lacks a series of data analysis and data collation. As a result, the public management decision-making has the problem of low precision and low popularization rate, which seriously affects the scientific nature and effectiveness of government decision-making. To the follow-up work has caused a series of adverse effects. But with the continuous development of Internet information technology, artificial intelligence plays a more and more important role in the field of public management. In the current decision-making structure, artificial intelligence can integrate a wide range of information and make a series of specific analysis, which greatly improves the decision-making ability of the government and enterprises. For a range of leaders, this greatly reduces decision-making errors. It also improves the efficiency of the current government, enhances the scientific nature and effectiveness of making of the government, and makes the current way of life and production more and more convenient. Government services are also more in line with the wishes and requirements of the people [4].

3.3   Reduced Service Costs for Public Administration

For the development of artificial intelligence, the most obvious development characteristic is the reduction of service cost of public management. Under the current series of services, many career development has been replaced by artificial intelligence. This greatly reduces the investment of human, material and financial resources, and promotes the promotion of the current economy. For the field of public administration, a decisive achievement requires considerable investment. In the face of this situation, artificial intelligence solves this problem well. It effectively reduces the service cost of public management. Artificial intelligence is introduced in some fields, the integration and integration center of super-department is established, and a series of artificial intelligence service platforms are constructed, which provides a series of advantages for urban development and public management. This improves the operation efficiency of the city, reduces the management cost of the city to a certain extent, and greatly promotes the development of public management.

4   Risks and Challenges of Artificial Intelligence in Public Management

Artificial intelligence has also created a series of problems and challenges in promoting public management, as shown below.

4.1   The Balance and Conflict Between Value Rationality and Instrumental Rationality

With the development of Internet technology, the arrival of big data era. A series of policy measures of public administration are more dependent on information technology and

intelligent development. In this case, the attitude of information technology is neutral, it cannot make the best choice in accordance with the current decision like the human brain. The decision made by artificial intelligence has certain value orientation for people. The formulation and analysis of public policy involves a series of value rationality problems. Therefore, in this case, this analysis cannot be the only basis for final decision. Nor is such a decision in the interests of the overwhelming majority of the people. In this case, we can only use this analysis as a reference scheme. The concrete implementation measures should be combined with the current development situation and the future development vision to analyze, grasp the balance between reason and emotion, and realize the maximization of social governance function [5].

4.2   The Virtualization of Social Public Value and the Risk of Data Hegemony

In the current information society, with the popularity of smart phones and the development of some electronic products, people's current privacy information cannot be retained to a large extent. Most people live under Internet information technology. For the current situation, the confidentiality of data is very important. But in other words, in today's society, who has the data, who has the initiative. For the current development of the Internet, most applications and websites will have an information memory that attracts customers by providing free information. At the same time, this information is transmitted to some bad merchants, under the accumulation of this information. These data giants also gradually analyze a series of psychology of current users. Based on a series of big data observation and reckoning capabilities, the user's deepest secrets and even through these data to manipulate our choices. In the face of this situation, people are not aware of the existence of this problem. Will still be through the disclosure of personal information in exchange for a series of free services. Therefore, in this case, it is very difficult to impose some sanctions on data hegemony. Therefore, in promoting the use of artificial intelligence in public management, we should combine the current data development, attach great importance to the confidentiality of public management information, and prevent individual merchants from carrying out a series of data monopolies through information processing.

4.3   Data Analysis and Management Mismatch

For the development of artificial intelligence, we cannot deny that artificial intelligence has greatly improved the service level and decision-making efficiency of government departments, reduced the service cost of government management, and made people's work efficiency higher and higher. But in the construction of this intelligent platform, most departments will pay attention to the collection of data. Ignore a series of problems. For example, because of the complexity of the data, there is a lot of invalid information and invalid data. This data is also ineffective research, resulting in a series of waste of resources. This makes the role of intelligent platform has not been fully played. With the development of Internet and artificial intelligence, communication between departments is reduced, and everyone has developed into a data island. In this case, the corresponding discussion and information sharing cannot be carried out. Make decisions better serve management needs.

4.4 Security and Risks of Personal Privacy and Public Data

The accuracy of personal privacy and public safety data determines the accuracy of public administration. And then affect the safety of people using artificial intelligence. Before collecting and collating a series of data, if it is not used properly, it will not only threaten the security of personal privacy, but may even endanger the security of public services and public data. This must be noticed.

5 Solutions for Artificial Intelligence in Public Management

In the face of a series of problems caused by artificial intelligence in the field of public management, this paper puts forward the following suggestions.

First, promote government staff to understand the real purpose of introducing artificial intelligence technology and learn to predict and evaluate the risks and advantages of artificial intelligence. Although most local governments and staff are discussing the advantages and disadvantages of artificial intelligence technology. But the current areas of discussion are mainly concentrated in the industrial and commercial fields. Therefore, in this development, governments at all levels should not only recognize the values that artificial intelligence technology conforms to the common interests of mankind, but also realize that the risks generated by artificial intelligence technology may be far greater than the profits. One must weigh the two.

Second, Promote governments at all levels to participate in the promotion and design of artificial intelligence. Actively formulate the use of artificial intelligence norms. Continue to sum up the use of experience, improve artificial intelligence in the public management part of the top-level design. For example, in view of the transparency, fairness and effectiveness of some data, the corresponding government should make specific measures to safeguard the interests and requirements of the people and build a service-oriented government [6].

Third, in artificial intelligence services, we should also strengthen the corresponding talent training plan. After the current artificial intelligence technology and public management application have become the general trend of development. How to introduce artificial intelligence technology talents to serve public management is a difficult problem in current development. In the face of this development situation, the government should strengthen the cooperation with campus and enterprises, set up relevant artificial intelligence majors in colleges and universities, and vigorously train technical talents. To meet the needs of the development situation. Fourth, accelerate the establishment of safety nets, users enjoy the fruits of artificial intelligence technology, but also share the opportunity costs prohibited by the public sector. The introduction of any new technology and new achievements has certain advantages and disadvantages for people. The benefits of this technology are also asymmetric. Therefore, the corresponding government departments should build a safety net, promote the positive communication of different people, and reach a consensus on the future risks.

6 Conclusion

The development of things has two sides, we cannot because of the risk of something, a series of adverse reactions to its development to make a total negation. Under the

development of new things, what we want to do is to grasp the advantages of this thing accurately and make use of the advantages to serve social production and public production accurately. Maximize the advantages. At the same time, we must do a good job of predicting risks, which is the only way to develop new things. In the application of artificial intelligence in public management, we should grasp the advantages of artificial intelligence to give full play to the advantages of artificial intelligence and serve public management. Under this kind of development environment and the broad development trend in the future, we should actively train public management and artificial intelligence talents, and strengthen the tripartite cooperation between enterprises, colleges and universities and the government. In order to improve the efficiency of public utility management.

References

1. Zhao X (2017) Business automation technology and applications. China Light Industry Press
2. Xu SM, Zhagn YF (2013) Introduction to public administration. Peking University Press
3. Dong LR (2018) Research on artificial intelligence development and government governance innovation. Tianjin Adm Sch J 3:3–10
4. Liu YB (2018) Under the shadow of artificial intelligence: Ethical dilemma in government big data governance. Adm Forum 3:97–103
5. He Z (2018) The construction of human security system in the age of artificial intelligence. e-government 7:74–89.
6. Lv CY, Nie C (2018) An analysis of the international experience of artificial intelligence on employment challenges and social policy responses. Joko Court 12:29–38