Research Article
Role of Artificial Intelligence Machine Learning in Deepening the Internet Plus Social Work Service

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The traditional social work services are mainly visits which have some problems such as inconvenient information circulation, unreasonable resource allocation, and low service efficiency. To improve these problems, Internet plus is used to reform social work services and form an Internet plus social work service mode. Although this model has a very good improvement effect on social work service, with the rapid increase of the number of social work services and the rapid growth of the number of volunteers, this model has limitations in the arrangement of social work services and volunteer management. Therefore, based on this model, with the help of machine learning, the Internet plus social work service mode can be deepened by using machine learning to manage social services and volunteers. Internet plus social work service is the main problem in this paper. The Internet plus social work service mode is formed. Then, the deepening role of machine learning in Internet+ social work service is discussed, and some problems in Internet plus social work service mode are improved. Internet plus social work service mode can better improve the problems in traditional social work service. The paper also uses machine learning to further optimize the mode of Internet plus social work service, which has a good application in social work service prospects.

1. Introduction

With the continuous development of the information society, the management of the Internet plus social work service platform needs reasonable platform framework, scientific level management, and sound system [1]. However, in today’s information society, there are still many problems in the management system of volunteer service platforms in various places, which restrict the good operation and promotion of social work service platform and also affect the deep combination of social work services and Internet plus [2]. Volunteer groups can independently release task profiles through the platform and conduct online management activities. Each social work service platform has the same function, with additional creation activities, resulting in waste of property, energy, time, etc. In the process of Internet plus social work service anti-business platform management, it is very important to establish a timely and effective communication channel. But in reality, the strong administrative leadership of the government will have a negative impact on the management of the platform. In the management process, the government, as the builder of the volunteer service platform, often imposes obstacles through administrative orders, which not only affect the timeliness of communication, but also to some extent erode the enthusiasm of volunteers. The original intention of social work service platform is to provide relevant information for both sides of volunteer service in time, promote the collection and connection of volunteer service resources, and improve the quality of volunteer service [3]. At present, the common community work service platform only publishes one-way information, does not realize the automatic identification and self-promotion of information, and does not really complete the effective transmission of social work service providers’ information understanding. The intelligent development of “Internet plus social work service” needs not only the support of the government, but also the active participation of all of them. Moreover, the two major plates of insufficient publicity and social cognition are barren.

Internet + is a new format driven by innovation in a knowledge-based society and a new form of Internet
thinking [4]. Generally speaking, “Internet plus” refers to the Internet plus all kinds of traditional industries. It is to use information technology to promote the deep integration of the Internet and traditional industries and create new development concepts. The concept of “Internet plus” was first proposed by Yang in the fifth mobile Internet Expo November 2012. Premier Li Keqiang first proposed the idea of “Internet plus” intelligent action in his government work report. Since then, Internet plus has been promoted to the highest level in the country. The application of “Internet plus” in various areas and posts has gradually emerged. The development of social work services has become an important task in China and has been combined with the “Internet plus” service. Firstly, the establishment of the Internet plus social work service platform can speed up the rapid registration of volunteers, quick response of activities, timely implementation of service contents, visualization of service processes, and convenient evaluation of service results. Secondly, it can make full use of the network technology, share the national dispersed voluntary service resources through the network platform, accelerate the intelligent connection of voluntary service content, and achieve the “ultimate goal” of voluntary service [5]. The promotion and application of Internet plus technology can not only promote the intelligent docking resources of volunteer service, but also help improve the volunteer service and social network construction so as to achieve the sharing of resources and complementary information of volunteer service and social work [6].

Machine learning is generally to make machines have the ability to collect “experience” and independent learning, just like human beings [7]. Of course, machines cannot go through all kinds of setbacks in life like people to collect “experience.” The machine analyzes the existing data, summarizes the idea of conventional training generation, and applies the idea to practical problems in real life. For example, whether the work is completed on time can be expressed as the numbers 0 and 1. 0 indicates that the work is not submitted in time, and 1 indicates that the work is submitted in time. Such a judgment is due to a large amount of experience accumulated before, and accurate prediction can be obtained through the analysis of previous experience. Computers have no such experience, so “experience” needs to be converted into data for the computer to understand. Using these numbers, the model is analyzed by learning algorithm to accumulate the final results. Machine learning is a university subject, which has many learning algorithms [8]. Machine learning is also widely used in business; for example, in the management system of large-scale shopping websites, the amount of data generated by shopping websites every day far exceeds the processing capacity of human beings. It needs to use machine learning platform to analyze and process data and use machine learning method to find patterns that are difficult to find by human (due to the size and complexity of data sets). This paper uses machine learning to deepen the performance of the Internet plus social work service platform, solve problems that human and mental problems cannot handle, and gradually improve the Internet plus social work service mode.

Machine learning focuses on the calculation and analysis of computer “automatic learning” algorithm [9]. The beginning of machine learning is data content, so data content is closely related to machine learning. Machine learning is widely used in almost every field. Some data storage methods just take advantage of machine learning theory, which has been widely applied in Internet plus. When machine learning is added to the Internet plus social work service mode, we can effectively promote the social work content and service staff information before the activity is carried out, and leisure time expands the cognition degree of social service personnel to the task, so as to facilitate the subsequent work smoothly.

The innovation of this paper lies in the innovation of research direction. Through city’s Internet plus, the paper finds that the supply of urban community work service under the background of “Internet plus” and the “Internet +” thought is less in improving the supply of city community work services. Based on city Internet plus field visits and surveys, the problems of community service supply from community and resident level are presented, and the initial exploration of the application of “Internet +” thinking and “Internet plus” technology in urban community work service is preliminarily explored.

2. Internet Plus Social Work Service Improvement

2.1. Internet Plus Concept. In March 2015, Ma Huateng submitted some opinions on promoting the “Internet plus” to drive China’s economic and social development and innovation at the third session of the Twelfth National People’s Congress. He pointed out that “Internet plus” is an important achievement in technological innovation, and its essence is to combine Internet information technology with traditional industry reshaping and achieve the upgrading of products and services based on “Internet plus.” Internet plus can be divided into “Internet” and “+” [10]. “Internet” refers to the rapid development of Internet communication technology, Internet technology means, and Internet platform. And “+,” just like the meaning of the symbol itself, means integration and reconstruction and expresses deep integration. In March 2015, in the government work report, Li Keqiang pointed out clearly that the “Internet plus” action plan was designed to promote the integration of mobile Internet and other technologies with modern manufacturing and to guide the rapid development of all industries in the context of “Internet plus” [11]. Internet plus has risen to the top priority of the country and has become an important starting point for social development. All sectors of society responded quickly and integrated Internet plus technology to achieve continuous upgrading of the industry, fueling the development of Internet plus.

The combination of “Internet plus” innovative ideas and external related industries will enable all kinds of production factors to gradually interoperate and mutually benefit from fragmented debris and to form a parallel protocol for production of raw materials through the unified integration of space and time [12]. This is the starting stage of the
development of Internet plus. If we want to step in the resource efficient control and produce the main raw materials to achieve the advanced stage, we need a lot of equipment and services to support. "Internet plus" ideas and operations, content and production of raw materials, equipment, and services support cooperate with each other, combine, and innovate in depth; then the Internet plus traditional industries will lead to a new situation in economic and social development.

"Internet plus" has the following characteristics. 1. Cross-border integration [13]: the deep integration of Internet plus with all sectors of the economy and society is a typical example of cross-border integration. Modern Internet technology is deeply integrated with agriculture, industry, and service industry. Traditional industry is transformed by divergent thinking idea of Internet. 2. Innovation driven [14]: traditional industries take "resources" as a necessary condition for development. If they have more resources, they can become the leaders of the industry. Internet plus technology can allocate resources more rationally and effectively in the industry, transforming the traditional "relying on resources" to the modern "relying on wisdom" and upgrading the industry by innovation drive. 3. Remodel the model: after the supply side reform is put forward, how to change from the "demand side" to the "supply side" is a problem gradually explored in various fields of economic society. The Internet plus analysis technology is advanced, forecasting consumption trends through big data and cloud computing, making supply plans ahead of schedule and changing business models. 4. Conform to the public: "Internet plus" is people-oriented and respects users to the greatest extent. It strives to satisfy user experience, pay attention to people’s innovative thinking, and encourage technological innovation and divergent thinking.

Since the popularization of the Internet has provided an opportunity in the development of social work, we have been able to have a breakthrough in the bottleneck of social work development and have industrial optimization and upgrading. "Internet + social work" of the deep integration of Internet technology and the social work industry can improve the shortcomings of traditional social work methods including enhancing publicity, changing the type of information and communication, and improving the efficiency of service management.

2.2. Problems in Social Work Services. There are only some popular and standardized services in the connection between organizational activities and resources of service centers, that is, making plans in community work service centers and exploring a series of characteristics of serving the masses. However, due to the geographical location and other factors, people usually use the existing resources in the community, but in the context of social changes. However, community resources are far from meeting the needs of community residents and community public services, which leads to a problem in the service center between services, that is, the weak link of social resources [15, 16]. With the expansion of service scope and more and more service contents between the service center and the community, it is necessary to mobilize all positive elements of the community and the outside world to convert them into resources that can be used for services. However, the resource allocation and integration between the service centers are incompetent, and the contradiction between the inefficient use of service facilities and the insufficient construction is obvious. Some community service infrastructures are insufficient to meet the effective needs of residents. On the other hand, the construction of some public facilities in the community also reflects the low rate of resource integration.

Due to the long and short period of reorganization of the community work service center, a simple guiding service standard has been introduced between civil affairs bureaus, and the theoretical research of relevant scholars is relatively small. In the service process of the social work service center, the service for the public is based on the previous service measures. This will affect the current work system of social work service center into a "self-closed, self-management, self-circulation" mode, which leads to imperfect operation structure between social work service centers; the system is not perfect [17, 18]. On the one hand, the management system of social work service center and the relationship between subordinates are not clear, and the internal management system between social work service centers is not clear enough. On the other hand, in the context of community transformation, the needs of the masses are diversified. However, the service of social work service center cannot meet the needs of some residents, the activity content tends to be administrative, and the activity mechanism system is not perfect.

For the imperfect infrastructure and the network technology level of such social workers to be improved and other problems, on the one hand, the state should increase the financial investment and policy support for rural Internet construction and strengthen the construction of rural Internet infrastructure. On the other hand, social work should actively seek government support to establish a unified information management platform and a perfect network service system, hire Internet experts to develop equipment, software, and infrastructure for network social work services, provide computer training for social workers, and conduct experience exchange sessions to improve the network technology level of social workers.

2.3. Internet Plus Social Work Service Mode. For this reason, social work has been a service activity guided by altruism, which is based on scientific knowledge and the use of scientific methods to help people. In the traditional way of social services, social workers visit households while community residents come to their homes to seek help, and their service clients are people who come to their homes on their own initiative and social workers on their own initiative, while others refer them to help.

We have established the Internet plus social work service mode in some localities, and the [19] mode of community work service has gradually developed to cover the whole
urban area. The Internet plus social work service mode mainly relies on the streets, serving the people, meeting the needs of residents, and actively carrying out flexible community volunteer service activities. In order to better gather, maintain, and manage the community volunteer team, professional social work shall be provided to take charge of the organization and management of each community volunteer team, publicize, and guide the enterprises, institutions, and social party members of university student party members to participate in the community volunteer service and form the mode of “social work + party member volunteer.” We should fully realize the social work cooperation between volunteers and members and gradually establish and improve the management mechanism of community party members and volunteers. Nanjing’s “social workers + party members volunteer” mode has initially realized the voluntary service mode of voluntary spirit into the community, voluntary activities into the portal, and voluntary organizations leading.

The establishment of the Internet plus community work service platform aims to connect the requirements and materials provided by the community service providers through the Internet platform [20]. Managers rely on the initial information audit and the subsequent discipline system of the platform security protection. After registration, both parties of community work service can exchange information at any time. One party issues requirement, and the other provides services and evaluates these points according to service level. The accumulated points of volunteers can be converted into rewards of different levels or help services of the same time. These big data [21] are all handed over to machine learning for in-depth processing. Through the information processing and communication of the community work service system, the scores of the community work service providers are accurately recorded, providing a good guarantee for the contributions made by the community work service providers.

The functional requirements of the Internet plus community service platform include service requirements and control requirements. Therefore, the service platform is mainly composed of service system and management system, as shown in Figure 1.

Through investigating and analyzing the management modes and service systems of major social work service platforms and experience platforms, we try to find a new platform for community work service and form an operation mode and feedback mechanism of “Internet plus community service,” as shown in Figure 2.

In the process of creating electronic files for clients and archiving their information on computer, there is also a risk of information leakage. When the account password of social workers is stolen or the computer is attacked by virus, the information of clients may be leaked. Therefore, social work organizations should strengthen the construction of information security prevention and control system, activate firewall, and install antivirus software, so that important information can be encrypted to avoid the risk of leakage.

3. Machine Learning Deepening Internet Plus Social Work Service

3.1. Machine Learning Concept. Machine learning is to understand and study the internal mechanism of learning, establish the theoretical method of computer program, and improve the theoretical method of improving computer program automatically through learning [9]. In recent years, machine learning theory has been successfully applied and developed in many application fields and has become one of the bases and hot spots of computer science. The computer program written by machine learning method has been successfully applied to the fields of robot chess program [22], speech recognition [23], credit card fraud detection [24], automatic driving car [25], intelligent robot [26], and so on. In addition, the theory of machine learning is also used in the field of data mining of big data sets. In fact, machine learning work experience can be accumulated.

As shown in Figure 3, the most important factor influencing the design of learning system is the information provided by environment or, more specifically, the quality of information. The repository contains general principles that guide the execution of some operations, but the environment provides a variety of information for the learning system. If the quality of information is high and there is little difference from the general principles, then the learning part is easier to deal with. If the learning system provides the specific details of disorderly guidance, the learning system needs to obtain enough data, delete unnecessary details, and summarize and promote the general principles of forming actions. In the knowledge base, part of the task of this research is very heavy, and the design is more difficult.

Because the information obtained by the learning system is often incomplete, the reasoning of the learning system is not completely reliable, and the rules may or may not be correct. This should be tested by the effect of execution. Correct rules can improve the efficiency of the system, should be retained, and should be modified or deleted from the database.

Knowledge base [27] is the second factor that influences the design of learning system. Knowledge can be expressed in many forms, such as eigenvectors, first-order logic statements, generating rules, semantic networks, and frameworks. These characterizations have their own characteristics. The following four aspects should be considered in the selection of characterization: (1) strong expression ability; (2) easy to reason; (3) the knowledge base being easy to modify; and (4) knowledge representation being easy to expand. The last problem that the knowledge base needs to explain is that the learning system cannot acquire knowledge without any knowledge. Each learning system needs some knowledge to understand the information provided by the environment, analyze and compare, make assumptions, and test and modify these assumptions. Therefore, to be more precise, learning system is the extension and improvement of existing knowledge.
3.2. Machine Learning’s Deepening Role in Internet Plus Social Work Service. The Internet plus community work service system mainly exists in the form of platform in the ecosystem. For the business interaction system, it provides the trained online model prediction function, and for the full use of the company’s cloud computing [28] resources and large-scale distributed storage [29], it can improve the model training speed by training the machine learning model on
the cloud platform. Through this system, we encapsulate the original algorithm modeling process which needs manual processing in every step, realize the automation of the whole process, greatly simplify the process of machine learning model, reduce the threshold setting of machine learning model, make the knowledge background without server-side developers easily fit the business demand modeling, and greatly reduce the development cost model establishment. In addition, as the intermediary between the business system and the machine learning algorithm, the system realizes the decoupling of the two, reduces the invasion of the machine learning model online to the community work service interaction system, and simplifies the steps of the model online.

One of the main objects of the system is the social workers who participate in the activities. These users are the core users of the system. The system can encapsulate the whole development process of the algorithm model into a black box and provide social workers with a one-stop service to obtain data from the data source and query the whole algorithm process of the machine learning model online [30, 31]. It is convenient for them to focus on their own social work, use machine learning model to match the appropriate social work, and improve the efficiency of activities. The user-friendly function allows users to have different experiences. The one-to-one matching mode greatly reduces the waste of resources of each release task personnel and social work service personnel. The friendly personnel selection function and activity registration function enable the participants to play the most ideal state to complete the task when they participate in social work service, with reasonable modular analysis. The management system provides a comfortable environment for the community work service providers; at the same time, it ensures the effective development of activities, records the number of participations, and gives evaluation. And other integral points that can reach certain values can be exchanged for gifts and other incentive mechanisms to further promote the development of the Internet plus social work service platform. In addition, after the deepening of machine learning, the content of advertising push is the description of community work service and the push of other activities, so as to realize the cognition of social work service to the public and publicize the value of the activity.

We also need to do a good job of supervision in the use of Internet applications for social services. It requires feedback, rectification, and implementation of specific conditions; once again to find out the problem, actively solve the problems reported by the masses, and carry out supervision and inspection. Do not let go of rectifications that are not in place, do not let go of responsibilities, and do not let go of systems that are not sound. The person in charge shall verify the problems item by item and the specific situation of rectification and implementation.

4. Results Analysis

4.1. Questionnaire Survey of Community Service Staff. This paper selects 50 Henan community service workers as the experimental subjects and uses the Internet plus community work service platform to deepen the machine learning proposed in this paper. From the interview, we learned about the current situation of the demand for community work services and the supply of community work services. After the two-month experiment, we summarized the community work satisfaction, and the results are shown in Figure 4.

As shown in Figure 4, it can be seen that the type of medical service is the most supplied type of community work service in Henan Province, with 81.67% of the residents’ needs; the type of cultural education and the type of convenient service are highly praised by the residents, with 75.93% and 75.12% of the residents’ needs, respectively. Other types are relatively few but also occupy a large part of the overall social service types. Because different age groups have different needs for social work services, each type should be paid attention to.

As shown in Figure 5, the satisfaction of the service workers in the community before and after the deepening of the Internet plus social work service platform can be clearly seen. Nearly 22 people have maintained a neutral attitude before the optimization, and 6 people are very unhappy with the platform service mechanism. Only a few people have agreed with the platform. However, the Internet plus social work service platform after the deepening of machine learning is obviously better than before. The community service staff highly appreciated the work. 12 people were very satisfied with the deepening platform, and only a few people were very dissatisfied.

4.2. Questionnaire Survey of Community Residents. After the Internet plus social work service platform was used to deepen the machine learning, we interviewed two residents who were involved in different ages. We asked about the frequency of service work and the satisfaction degree of the Internet plus social work service platform after the deepening of machine learning.

As shown in Table 1, it can be seen that the frequency of social work services used by community residents in Henan Province is mostly concentrated in the "occasionally" option, and 0 residents under 25 years old often use it, indicating that the demand for social work services is not very high. In particular, the elderly have a great demand for
community work services and use them frequently, but young people do not understand the original intention of community work services.

As shown in Figure 6, from the satisfaction of community residents, the Internet plus social work service platform after the deepening of machine learning was highly evaluated. Compared with the survey of residents’ satisfaction before and after the survey, it was found that the number of satisfied people increased significantly before the Internet plus social work service. Even the general evaluation was much higher. Call more people to participate in social work services.

4.3. Expert Satisfaction Survey. We also conducted an expert visit survey, interviewed 30 prominent figures in the social work service industry, and asked them to evaluate the deepened platform. The results are shown in Figure 7.
Figure 6: Community residents’ satisfaction.

Figure 7: Expert satisfaction.

Figure 8: Effectiveness test before and after deepening.
As shown in Figure 7, it can be seen from the interview results that 41% of the experts are satisfied with the platform, which means that the evaluation of the platform is also very high. Only 4% of the experts disagree with the deepening results of the platform, and 28% of the experts are generally satisfied with the platform, neutral, and 17% of the experts are very satisfied with the deepened social work service platform of the machine. I believe that when the platform is widely used, the effect is more obvious.

4.4. Effectiveness Test of the Internet Plus Social Work Service Platform. As shown in Figure 8, this paper tests the effectiveness of the traditional Internet plus social work service platform and the Internet plus social work service platform after the deepening of machine learning. It takes action separately and records the effective completion of activities from the service types such as helping the elderly, supporting the disabled, medical services, education, environmental hygiene, and other convenient services. Obviously, Internet plus social work service platform has a higher completion rate than traditional Internet plus social work service platform, and the advantages in handling various activities are obvious.

5. Conclusions

Although, in recent years, social work service has been highly valued by the government to enter the fast lane, the social work service talent team continues to grow, the social work service content continues to expand, and new ideas of service mode are emerging, but China’s social work service is still in the rising stage, and there are still some problems. This paper uses the popular Internet plus and machine learning technology to design and implement the deepening role of machine learning in Internet plus social work service in view of the factors such as inefficient service facilities, inadequate construction, imperfect operation structure, imperfect system, and low awareness of community work in traditional social work services. Some problems in the Internet plus social work service mode have been improved and timely adjustments were made. Therefore, we conduct a series of questionnaires to test the effectiveness of the social work service platform after the deepening of community workers, community residents, experts, and machine learning. In this paper, the use of machine learning to deepen social work service platform not only facilitates the activities of community service personnel, but also attracts more professionals to join the community service team and uses the mechanism of accumulated scores for prizes to attract residents to participate. Thus, the new Internet plus social work service mode meets the needs of the community, provides effective assistant for effective services, is an important assistant for the stable and harmonious development of community service, and is also an indispensable part of city development. If it is praised highly, it will have great achievements.

Data Availability

No data were used to support this study.

Conflicts of Interest

The author declares that there are no conflicts of interest regarding the publication of this article.

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