Artificial Intelligence-Driven Model for Production Innovation of Sports News Dissemination

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1. Introduction

The advancement of network technology laid a good foundation for the dissemination and development of online sports news. With the continuous development of artificial intelligence, the characteristics and functions of traditional media and new media are gradually being brought into play. The innovation in wireless communication technology has enabled the development of wireless communication across industries and at the same time has promoted the continuous reform and improvement of wireless communication technology. Wireless communication technology plays an extremely important role in different fields. Under the increasingly powerful influence of this new technology product, a broad audience is constantly changing their way of obtaining news.

Artificial intelligence technology is advancing the reform of the news release industry in all directions. This change will not only rebuild the order of news release but will also have a huge impact on the development of the media's news production mechanism and the audience's information environment. In this context, building a sound media platform responsibility, platform algorithm ethics, and user media literacy is indispensable conditions for building a new order of intelligent news production, and they all have positive response significance.

In recent years, wireless communication and artificial intelligence have had a huge impact on society. Rongpeng et al. found that 5G cellular networks are considered to be a key enabler and infrastructure provider in the ICT industry by providing various services with different needs. The standardization of 5G cellular networks is accelerating, which
also means that more candidate technologies will be adopted. Therefore, it is worthwhile to understand the candidate technology as a whole and check the design concept behind it. Rongpeng et al. tried to emphasize one of the most basic characteristics of the revolutionary technology in the 5G era; that is, initial intelligence has appeared in almost every important aspect of the cellular network, including radio resource management, mobility management, and service supply management. However, in the face of increasingly complex configuration issues and emerging new business needs, 5G cellular networks are still not enough without complete artificial intelligence functions. Therefore, Rongpeng et al. further introduced the basic concepts in artificial intelligence and discussed the relationship between artificial intelligence and candidate technologies in 5G cellular networks [1]. Boltaboyev found that mathematical statistics methods are used in the organization of sports activities, the management of various administrative activities, planning, the formulation of decrees and orders, and economic management. And this new approach records management, including creativity, work, patriotism, and other qualities, including the activities of leaders, teachers, scientists, social activists, athletes, and school teachers. This is enough to prove the importance of sports. Although the scholar found that physical activity was important, there were no practical examples [2]. Makridakis found that the industrial and digital revolutions have had a significant impact on human society and life, as well as enterprises. The upcoming artificial intelligence revolution has similar far-reaching effects. By studying similar inventions in the industrial, digital, and artificial intelligence revolutions, Makridakis claims that the latter is targeted, and artificial intelligence will bring about extensive changes and will also affect all aspects of human society and life. In addition, the impact of artificial intelligence on enterprises and employment will be considerable. People will be able to use the Internet to buy goods and obtain services from anywhere in the world and take advantage of the unlimited additional benefits brought about by the widespread use of artificial intelligence inventions. Those who use artificial intelligence extensively and are willing to take risks to reverse the situation will continue to gain a significant competitive advantage [3]. Liu et al. found that artificial intelligence is of great significance to the reliability and safety of modern industrial systems. As an emerging field of industrial applications and an effective solution for fault identification, artificial intelligence technology has attracted more and more attention from academia and industry. However, under different actual operating conditions, artificial intelligence methods are facing huge challenges. He tried to conduct a comprehensive review of artificial intelligence algorithms in mechanical fault diagnosis from the perspective of empirical background and industrial applications. First, briefly introduce different artificial intelligence algorithms, including the following methods: support vector machines, artificial neural networks, and deep learning. Then, an extensive literature survey of these artificial intelligence algorithms in industrial applications is given. Finally, the advantages, limitations, and practical significance of different artificial intelligence algorithms are discussed, as well as some new research trends [4]. Bennis et al. found that ensuring ultra-reliable and low-latency communications for 5G wireless networks and other networks is critical and is currently receiving great attention from academia and industry. The core requirement deviates from the network design method based on expected utility. In this method, relying on the average number is no longer an option, but a necessity. Instead, after providing definitions of latency and reliability, Bennis et al. carefully studied the various enabling factors of URLLC and their inherent trade-offs. Subsequently, Bennis et al. focused his attention on various technologies and methods related to URLLC requirements and their application through selected use cases [5]. Burton et al. found that the recent surge in interest in artificial intelligence may make many educators wonder how to solve moral, ethical, and philosophical issues in their artificial intelligence courses. Burton et al. hopes to develop courses that not only enable students to become artificial intelligence practitioners but also understand the moral, ethical, and philosophical impact that artificial intelligence will have on society. Burton et al. provide practical case studies and resource links that can be used by artificial intelligence educators. Burton et al. also made specific suggestions on how to integrate artificial intelligence ethics into general artificial intelligence courses and how to teach independent artificial intelligence ethics courses [6]. Price and Flach found that the most advanced tools from machine learning and artificial intelligence are automating part of the peer review process. However, there are still many opportunities for further improvement. Analyzing, matching, and opening up, experts find that it is a key task that can be solved using feature-based representations commonly used in machine learning. Such simplified tools also provide insights into how the peer review process might proceed. In particular, analytical ideas will naturally lead to peer review perspectives aimed at finding the best publishing location for submitted papers. In Price and Flach’s view, the series established through the profile of continuous reviewers and authors are the key to a stronger and less random peer review process [7]. Polina et al. found that the increase in data availability and the latest advances in artificial intelligence have brought unprecedented opportunities to the healthcare sector, as well as significant challenges for patients, developers, suppliers, and regulators. Novel deep learning and transfer learning technologies are turning any data about people into medical data and turning simple facial pictures and videos into powerful data sources for predictive analysis. Polina et al. outline the next generation of artificial intelligence and blockchain technology, propose innovative solutions that can be used to accelerate biomedical research, enable patients to use new tools to control and profit from their personal data, and provide incentives to accept continuous health monitoring. Polina et al. introduced a new concept of evaluating and evaluating personal records, including the combined value, time value, and relationship value of data [8]. Through the experiments and analysis of scholars, we can know that artificial intelligence is widely used in modern life. Whether it is daily life or business management, it is inseparable from the convenience brought by artificial intelligence. People cannot
do without wireless communication. Based on the era of wireless network communication and artificial intelligence, it is essential to study the production innovation mode of sports news dissemination, but the experiments of scholars also have certain shortcomings: the experiment did not use the latest artificial intelligence and wireless communication methods, and the experiment method was too traditional.

The innovations of this article are as follows: (1) introduce the relevant theoretical knowledge of wireless network communication and artificial intelligence era and use neural network algorithms to analyze how to promote the production and innovation model research of sports news dissemination in the artificial intelligence era. (2) Based on the neural network algorithm and wireless sensor network algorithm to carry out the experiment and analysis of the research on the production innovation mode of sports news dissemination, through investigation and analysis, it is discovered that the era of wireless network communication and artificial intelligence can promote the development of innovative production models for sports news dissemination.

2. Neural Network Algorithm Based on Artificial Intelligence and Wireless Sensor Network Method Based on Wireless Communication

Wireless communication refers to the long-distance transmission communication between multiple nodes without propagation through conductors or cables, and wireless communication can be carried out by radio, wireless, etc. Wireless communication includes a variety of fixed, mobile, and portable applications, such as two-way radios, mobile phones, personal digital assistants, and wireless networks. With the rapid development of information technology, a new generation of information technology, Internet of Things, mobile cloud computing, etc. has gradually matured and begun to be applied to all aspects of society, economy, and life. Mobile cloud computing technology is a fusion of mobile technology and cloud computing technology, and its versatility and efficiency have brought revolutionary changes to today’s social life [9]. The artificial intelligence network service is that the smart terminal connects to the cloud computing server through mobile wireless network technology and Internet technology, loads the calculation, processing, and storage of the mobile application program to the cloud computing server for execution, and then feedbacks the execution result to the mobile smart terminal. In this context, this article applies wireless communication and artificial intelligence technology to the dissemination of sports news [10].

2.1. Neural Network Algorithm Based on Artificial Intelligence. Neural network is a kind of computing model, which is composed of a large number of nodes (or neurons) connected to each other. Each node represents a specific output function, called the excitation function. Each connection between two nodes represents a weighted value of the signal passing through the connection, which is called weight, which is equivalent to the memory of artificial neural network. The output of the network is different depending on the connection mode of the network, the weight value, and the activation function.

2.1.1. Neuron Model Algorithm. A neuron is a special type of cell with a cell body and protrusions. Its main structure includes three parts: cell body, dendrites, and axons. The cell body is composed of nucleus, cytoplasm, and cell membrane. The term artificial neural network is derived from biomedical neural network. A neuron can establish contact with multiple surrounding neurons through dendrites and axons to realize the reception, processing, and transmission of information [11]. The complex nervous system of the human body is built on hundreds of millions of neurons. Therefore, simulating the biological nervous system to build a neural network can help understand and obtain the information hidden in the data. The neuron model is shown in Figure 1.

As shown in Figure 1, the unique composition and calculation methods of neural networks have become an important research method in the field of artificial intelligence. The output of the previous neuron is used as the input of the next neuron and then input to the next neuron after the weighted integration of the neuron [12]. The forward transmission of neuron information is as formula (1):

\[ x = f(w_iy_i + b). \]  

Among them, \( y_i \) represents the input signal, \( w_i \) represents the weight, \( b \) represents the bias part, and \( x \) represents the signal output.

The sigmoid function and the tanh function are two activation functions that were widely used in the early research, and both are sigmoid saturation functions. When the input value of the sigmoid function tends to positive infinity or negative infinity, the gradient will approach zero, resulting in gradient dispersion. The output of the sigmoid function is always positive, not zero-centered. The commonly used activation function is the sigmoid function as in formula (2):

\[ f(y) = \frac{1}{1 + \exp(y)}. \]  

The unique composition and calculation method of neural network have become an important research method in the field of artificial intelligence. After the learning goal is given, the approximation of any function can be achieved, and the internal connection that is difficult to achieve with mathematical formulas can be established [13]. Therefore, it has important applications in many fields such as pattern recognition, prediction, intelligent control, and expert systems. The neuron model is shown in Figure 2.

As shown in Figure 2, the basic structure of a single neuron is very similar to that of a linear perceptron, except that a nonlinear unit is added on the basis of linearity in order to make the model more complex. The nonlinear unit here refers to the activation function. According to different model structures and implementation principles, neural
networks can classify the following common types: back propagation neural network, radial basis function neural network, wavelet neural network, perceptron neural network, linear neural network, etc. [14]. The BP neural network back-propagates the sensitivity during the adjustment of the model parameters. The sensitivity value of the previous layer is calculated from the sensitivity value of the latter layer, which is the process of propagation from back to front. Perceptron neural network is a single-layer neural network, mainly used for classification [15]. The linear neural network model structure is relatively simple, with only one or a few neurons, and uses a linear transfer function.

In order to obtain an accurate prediction model, the output sequence is compared with the target sequence to adjust the weight parameter \( E \) and the bias vector \( X \) of the model. Usually, the optimization goal can be set as the error as in formula (3):

\[
E(y) = \frac{1}{2} \sum_{i=1}^{n} (y_i(x_i) - y_i(x_i))^2. \tag{3}
\]

Among them, \( x_i(y_i) \) represents the output data, \( y_i(x_i) \) represents the target data, and \( N \) represents the number of data. In previous studies, in order to obtain a better prediction model, neural networks are often used in combination with other optimization algorithms (artificial intelligence algorithms) for traffic prediction and data transmission in terms of traffic prediction. Its globality and fast convergence can solve the problem of BP network falling into local optimum [16].

Neurons can not only adjust their own connection weights but also have a certain impact on the value of the connection weight vectors of surrounding neurons. The network uses the neighborhood function to determine the size of adjacent units. The commonly used neighborhood function is shown in Figure 3.

As shown in Figure 3, the adjustment ratio of the neuron connection weight in the winning neighborhood is closely related to the distance to the winning neuron. The closer the distance to the winning neuron, the greater the adjustment of the connection weight. The size of the winning neighborhood is variable. Generally, the range is larger in the initial stage of the algorithm, and it is continuously reduced during the network training process [17].

2.1.2. Support Vector Machine Algorithm. Support vector machine, also known as “support vector network,” is a discriminative machine learning classification algorithm. It uses a decision boundary (hyperplane in this case) to divide data points into two categories at a time (this does not mean that it is just a binary classifier, which only divides data points into two categories at a time). The main goal of the support vector classifier is to find the best separation hyperplane (decision boundary). The support vector machine algorithm was originally developed to solve the problem of linear separability. It was developed on the basis of statistical theory and then gradually extended to the case of nonlinearity [18]. In nonlinear classification, the mapping from the input feature space to the \( W \)-dimensional space is as formula (4):

\[
W(a, b) = (a'b + 1)^q, q > 0, \tag{4}
\]

but it is realized by the inner product operation of the kernel function. The kernel function is understood as the extension of the concept of matrix and inner product, the properties of the kernel function corresponding to the properties of the matrix are obtained, and the kernel function can be used to solve certain problems like the concept of inner product. The nonlinear mapping can still be classified by a hyperplane, and the optimal hyperplane can be calculated as formula (5):

\[
g(a) = w'a + w_0 = \sum_{i=1}^{n} \lambda_i a_i b_i + w_0. \tag{5}
\]
Among them, $\lambda_i$ represents the number of support vectors. The number of nodes is determined by the number of support vectors. The nonlinear SVM architecture is shown in Figure 4.

As shown in Figure 4, the SVM algorithm has a greater advantage when dealing with small sample sizes. When the scale of the problem design is large, or when dealing with multi-category problems, it is difficult to realize due to the complicated solving process and large amount of calculation.

As a kind of machine learning algorithm, SVM is often used in image processing, text classification, handwritten digit recognition, and some prediction-related aspects [19].

### 2.1.3. Autoregressive Moving Average Model

The autoregressive moving average model is a common method for studying time series problems. It consists of two parts: autoregressive and moving average model. It has more superior spectral estimation characteristics and excellent resolution performance [20]. The expression of the model is as formula (6):

$$A_t = \eta + \varphi A_{t-1} + \varphi^2 A_{t-2} + \cdots + \varphi^p A_{t-p} + \epsilon_t.$$  

This formula expresses the relationship between the current value $A_t$ and its past value $A_{t-p}$. Among them, $\varphi$ is the autoregressive coefficient, and $\epsilon_t$ is the noise disturbance. When $\eta = 0$, it means that the mean is 0.

The MA model is proposed under the inspiration of the autoregressive model, and the expression is formula (7):

$$A_t = \eta + A_t + \theta_1 A_{t-1} + \theta_2 A_{t-2} + \cdots + \theta_q A_{t-q}.$$  

This formula is useful for describing the relationship between the current value $A_t$ and its past values $A_{t-q}$. The MA model is often used in the analysis of time series.
In the model, the value of $A_i$ is not only related to its historical value but also related to the disturbance of historical moments. Before using the model for parameter estimation, the stationarity test of the time series is first necessary, then using the autocorrelation function and partial autocorrelation function, of the time series to determine the order $p$ and $q$ of the model. After the structure of the model is determined, the sequence can be estimated, and the sequence in a later period of time can be predicted.

Next, there is a comparison of the performance of prediction algorithms, as shown in Table 1.

As shown in Table 1, the other three methods will have some performance fluctuations, but the volatility is not very large. The reason is that the three predictions in this article are only due to the difference in step size. That is, the $k$ data before the prediction point are considered, and the size of the data value itself has not changed. Therefore, the prediction results in the three cases are relatively stable.

### 2.2. Wireless Sensor Network Algorithm Based on Wireless Communication

Wireless sensor networks have many application scenarios. For different application scenarios, the requirements for network coverage are usually different, as shown in Figure 5:

As shown in Figure 5, in single-objective optimization, a global optimal solution can be determined according to the objective value of the objective function. In multiobjective optimization problems, there are multiple objective functions, and it is difficult to rank feasible solutions according to a single criterion. The goal of noninferior solutions is to find a set of suboptimal solutions that can achieve better values for each goal under certain constraints. The multiobjective optimization problem model is used to solve the problem, and the mathematical expression is formula (8):

$$
\max Q = f(a) = \left[ f_1(a), f_2(a), \ldots, f_p(a) \right].
$$

(8)

The set of solutions is $Q$, and for any solution $a_i < a$, the condition for it to be a noninferior solution is formula (9):

$$
R^i = \sum_{i=1}^{k} a_i \log_2 \left( 1 + \frac{a_i}{1 + a_i} \right). \quad (9)
$$

Among them, $a_i$ and $\log_2(1+(a_i/1+a_i))$, respectively, represent the transmission power of the transmitting end of the first pair of users who perform data transmission on the $i$-th and the downlink transmission power of the base station for communicating with the user. Since wireless communication is only a supplement to traditional cellular network communication, its transmission rate must meet the following conditions as formula (10):

$$
R_i = \sum_{i=1}^{l} a_i \log_2 \left( 1 + \frac{a_i}{1 + a_i} \right) \geq R_c. \quad (10)
$$

Among them, $R_c$ represents the user’s minimum data transmission rate requirement.

Its optimization goal is to maximize the energy efficiency of all users under the premise of ensuring each user and meeting the maximum transmission power limit of the base station and users. This energy efficiency is defined as the ratio of the sum of the transmission rates of all users in the network to the sum of the power consumption, and its modeling is shown in formula (11):

$$
\max \eta_{te} = \frac{\sum_{i=1}^{l} a_i \log_2(1+(a_i/a_i))}{2p}. \quad (11)
$$

Among them, $2p$ represents the power consumption of the transmitter and receiver circuits in the user. The inequality constraint is used to ensure that the user does not exceed the maximum transmission power limit when transmitting data and to ensure that the base station does not exceed its maximum transmission power budget when communicating with the user.

Since the objective function in the optimization problem is in fractional form, the optimization problem is a nonconvex optimization problem. In addition, the optimization problem becomes more complicated and difficult to solve directly. In order to make the optimization problem into a form that can be solved, first, based on the nature of the optimization objective function and the user’s constraints, the optimization problem is equivalently transformed, as shown in formula (12):

$$
P_i \geq \frac{\delta (1 + P_i)}{h_i}. \quad (12)
$$

From the objective function of the optimization problem, it can be seen that for a given $P_i$, the value of the optimization objective $h_i$ decreases as the value of $P_i$ increases.

Therefore, combining inequality 12 can get the following conclusion: if you want to get the best solution, it should take the minimum value as in formula (13):

$$
\sum_{i=1}^{l} a_i \leq 1. \quad (13)
$$

The life cycle of a wireless sensor network is also an important indicator to measure the quality of the network. Under the premise of ensuring a certain coverage rate, reduce the number of working nodes, close the communication modules that make some redundant nodes, and reduce energy consumption as much as possible, as shown in formula (14):

$$
\text{Table 1: Performance comparison of prediction algorithms.}
\begin{array}{cccccc}
\hline
\text{Algorithm} & \text{MAE} & \text{RMSE} & \text{MRE/\%} & \text{MAE} & \text{RMSE} \\
\hline
1 & 2.45 & 3.76 & 7.31 & 5.52 & 12.43 & 6.32 \\
2 & 2.35 & 3.68 & 7.02 & 5.30 & 12.01 & 6.28 \\
3 & 2.67 & 3.21 & 7.68 & 5.01 & 10.52 & 6.16 \\
\hline
\end{array}
$$

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\[ \gamma = \frac{|P|}{M \times N}. \]  

(14)

Among them, \( |P| \) is the number of sensor nodes in working state.

The difference between the remaining energy in the cell and the average remaining energy in the cell is compared to the difference between the maximum and minimum values of the remaining energy in the cell to represent the energy distribution state of the network cell, as shown in formula (15):

\[ W_C(T) = \frac{|W_i - W_{\text{avg}}|}{W_{\text{max}} - W_{\text{min}}}. \]  

(15)

Among them, \( W_i \) is the remaining energy of all nodes in the \( i \)-th virtual cell, \( W_{\text{avg}} \) is the average value of the remaining energy in the cell, and \( W_{\text{max}} \) and \( W_{\text{min}} \) are the maximum and minimum values of the remaining energy in the cell, respectively. \( W_C \) reflects the degree of energy difference between cells in the network. The smaller the value, the smaller the energy difference in the network.

To increase the length of the network life cycle, it is necessary to use as few nodes as possible to reduce energy consumption, and to ensure that nodes with higher remaining energy are selected first, so the objective function can be expressed as formula (16):

\[ G_2(T) = \min (\alpha \ast \gamma + \beta \ast E_x(T)). \]  

(16)

Among them, \( \alpha \) is the node utilization weight, \( \beta \) is the energy balance weight, and \( \alpha + \beta = 1 \).

The coverage optimization problem of wireless sensor networks is a multiobjective optimization problem. Network coverage and network life cycle become two optimization subobjectives. The most important feature of wireless sensor network is that the battery energy carried by the node cannot be supplemented. This is the “bottleneck” problem and the focus of research in the application of wireless sensor network. Optimal coverage is a basic problem for wireless sensor network applications. According to the above definitions of network coverage and energy consumption, the mathematical expression of the network coverage multiobjective optimization problem is as formula (17):

\[ P = \begin{cases} \max F_1(T) \\ \max 1 - F_2(T) \end{cases}. \]  

(17)

The sink node adjusts the weights of all nodes in the winning neighborhood by updating the weight vector of the node, as shown in formula (18):

\[ H_i(t+1) = H_i(t) + \Delta H_i; \]  

(18)

After each connection weight adjustment, the sink node will readjust the learning factor and the range of the winning neighborhood and renormalize the connection weight, as shown in formula (19):

\[ \alpha(n) = \alpha(n) \times \left(1 - \frac{t}{T}\right). \]  

(19)

The above process finally establishes each node as in formula (20):

\[ \text{Cost}(j, i) = \eta \times \frac{H_0 - H_{CH}}{H_j} \times \sum d^2(j, i). \]  

(20)

Among them, \( H_{CH} \) is the remaining energy of the node, \( H_0 \) is the initial energy of the node, \( H_j \) is the
remaining energy of the node, $\eta$ is the joint coefficient of energy and distance, and $\text{Cost}(j, i)$ is the distance from node $j$ to node $i$.

2.3. News Dissemination Methods Relying on Artificial Intelligence. With the changes of the times, the traditional 4C (consumer, cost, convenience, communication) law has emerged some deficiencies. Combined with the actual situation, the new 4C rule is more practical and feasible. Guided by the "New 4C Law," an innovative model of news production in the era of artificial intelligence can be constructed as shown in Figure 6.

As shown in Figure 6, in this model, the content of smart media partially relies on algorithms, big data, and cloud computing to output high-quality segmented news content. Attracting customer communities and advertising, this is the most basic strategic link in the entire value. The social part completes the matching and docking between content and users and can share and discuss content among multiple target user groups through a complete interactive communication mechanism through vertical and accurate information transmission.

Artificial intelligence should be the primary productive force now, and its future development direction, and now it seems that artificial intelligence technology has greatly accelerated the optimization and innovation of the specific links of news gathering and production. The modes of sensor news, robot writing, content information recognition, text-to-speech conversion, and user portraits have become quite professional. The embedding of VR technology makes the content performance more realistic and authentic.

Overall, compared with traditional artificial news reports, artificial intelligence writing does have incomparable advantages.

3. The Experiment of the Questionnaire Survey on the Dissemination of Sports News

In the contemporary society with rapid development of information, people have more and more channels to obtain sports information, and they are becoming more and more convenient. With the development of network technology and the rapid innovation of mobile terminal functions, emerging media have risen rapidly, which has had a great impact on traditional sports media. While everyone is still studying the networked expression of traditional media, the voice of artificial intelligence has sounded.

3.1. Experiments of the Questionnaire Survey. The network not only quickly won a large number of audiences but also used its unique communication advantages to attract audiences while at the same time, it began to have a huge social influence. In recent years, various news release methods have attracted people’s attention. This article has conducted a survey of sports attention in recent years, as shown in Figure 7.

As shown in Figure 7, people’s attention to sports has been on the rise in 2017; from 25% to 40% at the beginning, it has risen by 15%; in 2018, people’s attention to sports has increased more smoothly, from 30% at the beginning to 42%. Regarding the release of online sports news, major international sports events such as the Olympic Games and the Football World Cup have received great attention from...
mainstream people. In addition, many viewers’ requests have also stimulated the fierce competition of online media to popularize sports news. In order to gain a more advantageous position in the competition, they continue to use self-renewal methods to meet the audience’s demand for sports news.

This article investigates the channels through which viewers who love to watch sports news obtain sports information in recent years, as shown in Table 2.

As shown in Table 2, there are mainly the following channels for viewers who love to watch sports news to obtain sports information: Weibo, TV, other channels, newspapers, Baidu News, and WeChat. Among them, 87 people follow sports news through Weibo, accounting for 41%, ranking first. There are 58 people who follow sports news through TV, accounting for 33%, ranking second, and the least following sports news are through newspapers, with only 2 people, accounting for 0.5%, ranking last.

Therefore, it can be seen that Weibo is the most popular way of news dissemination.

This article investigates the development trend of sports news information dissemination from 2014 to 2019, as shown in Figure 8.

As shown in Figure 8, from 2014 to 2019, the proportion of sports news obtained through Weibo increased from 5% in 2014 to 32% in 2019, and the proportion of sports news obtained through newspapers dropped from 18% in 2014 to 4%. Due to the openness, platform, and social nature of the Internet, more and more people obtain, participate, and share sports information through mobile terminals. However, as a form of media, Weibo deserves detailed analysis and research from the viewpoints of the popularization form, characteristics, and development trend of sports information. On this basis, the main role of microblog in the popularization of sports news and the main existing problems and research conclusions and suggestions are put forward.

This article also investigates the factors that influence sports news consumers’ choice of news styles, as shown in Table 3.

As shown in Table 3, factors that affect sports news consumers’ choice of news methods include information consumer experience, cost and service value-added, accurate push to users, and effective interaction and convenient communication. Among them, 55 people experience information consumers, accounting for 25%; cost and service value-added 40 people, accounting for 20%; 29 people accurately pushing users, accounting for 9%; and there are 90 people for effective interaction and convenient communication, accounting for 46%. It can be seen that the factors that users care most about are effective interaction and convenient communication.
communication. Therefore, strengthening effective interaction and convenient communication will help promote the dissemination of sports news.

Sports news shows massive features on the Internet, but if do not summarize and integrate online news topics, it will be difficult for sports news events to be presented to netizens in a comprehensive way. Therefore, the existence of online sports news special reports will effectively overcome the shortcomings of the network in the process of news dissemination.

This article investigates the types of online sports news dissemination channels, as shown in Table 4.

As shown in Table 4, there are the following types of online sports news dissemination channels: personal websites and official websites of institutions, search engines, forums, instant messaging, blogs, and microblogs. Among them, 102 people follow sports news through personal websites and official websites of institutions, accounting for 31%; 46 people follow sports news through search engines, accounting for 13%; 89 people follow sports news through forums, accounting for 22%; 120 people follow sports news through instant messaging, accounting for 35%. It can be seen that the way users follow sports news through Weibo is the most extensive.
The two aspects of sports competitions and tidbits are the content of Sina Sports Weibo reports. Sports competition information mainly includes event documentary reports and sports commentary reports. This article conducted a survey on the topic of Sina Weibo and WeChat sports news reports, as shown in Figure 9.

As shown in Figure 9, since the network is an open large platform, it allows everyone to use this platform to publish and disseminate information. Therefore, relevant individuals and organizations can also use the method of creating a website to carry out news dissemination activities. In the field of online sports news, many individuals and organizations have their own official websites, where they act as witnesses to sports events and events. They use the first-person way to publish news, so that their behavior will not be in aphasia position in the process of network dissemination, but also have a high degree of authority and credibility.

3.2. How to Innovate Sports News Dissemination Methods

3.2.1. Pay Attention to the Information Consumer Experience. The so-called emphasis on information consumer experience is simply a kind of beautiful emotion that users feel. This kind of beautiful feeling is a kind of human nature, and it has unique attributes such as nonmateriality, interaction, irreplaceability, and branding.

3.2.2. Cost Reduction and Service Value Added. The cost here not only includes the user’s money expenditure but also includes the user’s time and energy. How to provide users with high-quality services while reducing costs is a point that the media should consider.

3.2.3. Accurately Push Users. Convenience here specifically refers to the timely push of news information and accurate push to users. The Tencent News client has a powerful push function, which accurately pushes users based on a large amount of data such as a large number of users’ social relationships. Native ads on WeChat use the company’s subscription account or service account to regularly push interesting articles to following users for brand promotion. At the same time, it can also reach the gathering effect from hot topics and then transform it into the long-tail distribution of news information, so as to construct user tags. In this regard, the media should also make good use of various big data platforms and big data technologies to carry out targeted operations.

3.2.4. Effective Interaction and Convenient Communication. After entering the mobile Internet, especially with WeChat, the information dissemination of network media is no longer difficult. Because relying on the Internet, people can communicate and connect with each other, forming an intersecting network of relationships. The audience is no longer just a point in the link of information reception, but also a point in the link of information dissemination. The audience can also interact and feedback, and the media’s agenda setting function is weakened. Everyone can express their own opinions on hot topics and interact with other users.

4. Discussion

This article analyzes how to research on the production innovation model of sports news dissemination in the era of wireless network communication and artificial intelligence, explains the related concepts of the wireless network communication and artificial intelligence era, researches the related theories based on the wireless network
communication and artificial intelligence era, and explores the research methods of the production innovation mode of sports news dissemination and through the questionnaire survey method to discuss the importance of wireless network communication and artificial intelligence era to the production innovation mode of sports news dissemination. Finally, take the era of wireless network communication and artificial intelligence integrated into the production innovation model of sports news dissemination as an example to explore the correlation between the two.

This article also makes reasonable use of neural network algorithms based on artificial intelligence. As the scope of application of neural network algorithms has become larger and larger, and its importance has also increased, many scholars have begun to apply neural network algorithms to all aspects of life. The neural network algorithm is a kind of mathematical operation. According to the calculation, the research on the production innovation model of sports news communication based on the era of wireless network communication and artificial intelligence is indispensable for the artificial intelligence era.

Through the questionnaire survey method, this article shows that in the era of artificial intelligence, traditional sports news dissemination methods can no longer satisfy consumers. Therefore, combining the characteristics of wireless network communication and artificial intelligence to find a new innovative production model for sports news dissemination will have a huge impact on sports news dissemination.

5. Conclusions

This article mainly studies how to create a new innovative mode of sports news dissemination based on the era of wireless network communication and artificial intelligence. Through the experimental analysis of the questionnaire survey, this article found that throughout the development of news media, humans can engage in coexisting production, communication, and other social activities through a certain medium. Therefore, from the perspective of the long process of human social development, the truly meaningful and valuable information is not the communication content of each era, but the nature of the communication tools used in this era. Artificial intelligence news will not only change the production mode of news but also change the cultural life of the entire human society. However, in the big wave of artificial intelligence news production and media integration, how to realize the docking and transformation of traditional media is a very realistic and meaningful problem. In this regard, traditional media should proceed from three aspects: ideology, technology, and talents. Therefore, it is of great research significance to create a new production innovation mode of sports news dissemination based on the era of wireless network communication and artificial intelligence.

Data Availability

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

Conflicts of Interest

The author states that this article has no conflict of interest.

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