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Corporate Governance Decision-making and Legal Protection Model Based on Data Fusion Technology

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Abstract: Corporate governance covers economics, business administration, law, and auditing and information technology. Effective corporate governance decision-making is an important source of a company's competitive advantage, it is one of the decisive factors to improve the competitiveness of an organization, and it plays a key role in ensuring the rapid development of the organization and sustainable growth at the same time. The quality of management is not only related to the company's performance, but also has a significant impact on the efficiency and effectiveness of the company's investment decisions, which in turn has a significant impact on the development of high-tech industries. Therefore, the legal protection of corporate governance decisions is very necessary. Faced with the huge amount of resources on the Internet today, netizens will always have a way to make use of them if they want to. In order to protect company resources and governance decisions, this paper aims to study a set of legal protection models for corporate governance decisions based on data fusion technology, so as to improve the protection of corporate governance decisions, which is conducive to the long-term sustainable development of the company. Using data fusion technology to conduct related experiments, the experimental results of this paper show that it is compared with other algorithms. The efficiency value of the method proposed in this paper can be higher than 95%, and the privacy protection and calculation accuracy are also due to other algorithms, which can have a large application space in corporate governance decision-making and its legal protection model.

1. Introduction

Businesses face fierce competition from globalization. To compete and achieve sustainable growth, it is necessary to continuously expand the business scale and innovate products. Investment decisions in corporate governance decisions include a company's R&D spending and decisions. The technology industry must continue to evolve and innovate, launching new products and competing with each other, and R&D is one of the most important ways to master technology. Using existing resources within the company to create new resources and develop new products and technologies will have a significant impact on the company's development. Governance decisions not only affect the resource allocation of an enterprise, but also point out the direction for the future development of the enterprise.

With the development of corporate governance in the theoretical circle, more and more researchers have discovered. A reasonable and perfect corporate governance structure can reduce corporate conflicts, reduce brokerage costs, and improve corporate investment efficiency. The law creates the personal data rights of data subjects, which are primarily based on a balance of societal interests, rather than primarily protecting personal interests. It is different from the right to privacy, which aims to create individual rights and protect private space and private affairs from outside interference. The purpose of personal data rights is to control the flow of personal data and to protect personal data, and the right to access personal data aims to correct the imbalance between the transfer of personal data and the protection of personal data.

This paper proposes a data fusion technology method. It conducts data analysis on the real-time situation of corporate governance decisions, and decides whether legal protection is required to safeguard the interests of the company. In this paper, by comparing the experimental effect of data fusion technology with other algorithms, it is concluded that the performance of the legal protection mode of corporate governance decision-making is better than other algorithms. The innovation point is mainly in the network node information obtained according to the time series with the data fusion technology. Multi-purpose, multi-stage, multi-level data discovery, evaluation and convergence are carried out according to specific criteria, so as to obtain target state and feature data without data omission or data inaccuracy.

2. Related Work

With the gradual improvement of people's legal awareness, the legal protection of corporate governance decisions has been paid more and more attention by scholars, among whom researches in this area include: None studies how corporate governance structure affects strategic change decisions [1]. In response to the use of compensation committees (RCs) to promote corporate accountability for executive compensation decisions, Kanapathippillai S empirically examined the link between RCs and attribution disclosure, that is, explaining the reasons for executive compensation decisions [2]. Nazar M explored the impact of corporate governance factors on dividend decisions [3]. Yun GG has done research on the legal framework of the PEF and its development impact on investor protection and corporate governance agenda [4]. The Baral SK survey showed a positive relationship between most corporate governance practices and financial performance. Corporate governance practices improve the financial performance of a firm/firm [5]. The above research lacks the application of certain technology and ignores the comprehensive research. Therefore, this paper proposes a research on corporate governance decision and legal protection mode based on data fusion technology.

Researches related to data fusion technology include: Zhang studied the data fusion technology of the optical hood polishing online monitoring system [6]. Du Y proposed a network media fusion technology for mathematics teaching based on big data mining and information fusion. He combined the characteristics of multimedia and network technology in terms of openness, creativity, and subjectivity to build a mathematical teaching database model [7]. Yue H used information fusion technology and big data mining to study enterprise financial risk management [8]. Jiao Z proposed a new method to improve the accuracy of fault location based on multi-source data fusion technology [9]. In order to effectively monitor water quality, Liu C proposed a data fusion method based on Dempster-Shafer evidence theory to detect pollutants in water [10]. However, the above-mentioned related researches are still not deep enough in the design of legal protection, and there is still room for improvement.

3. Methods for Governance Decision-making Based on Data Fusion Technology

3.1 Legal Protection Scheme for Corporate Governance Decisions

Corporate governance has a great relationship with the size of the board of directors, the size of the board of directors is related to the efficiency of the board of directors, and there is a direct relationship between the two. The larger the board, the more professionals from different disciplines can be accommodated. Mutual brainstorming is possible, and administrative decisions can be made comprehensively. However, sometimes if the scale is too large, it is easier to create factions within the organization, resulting in difficulty in integrating opinions and low efficiency [11]. The corporate governance structure is shown in Figure 1:

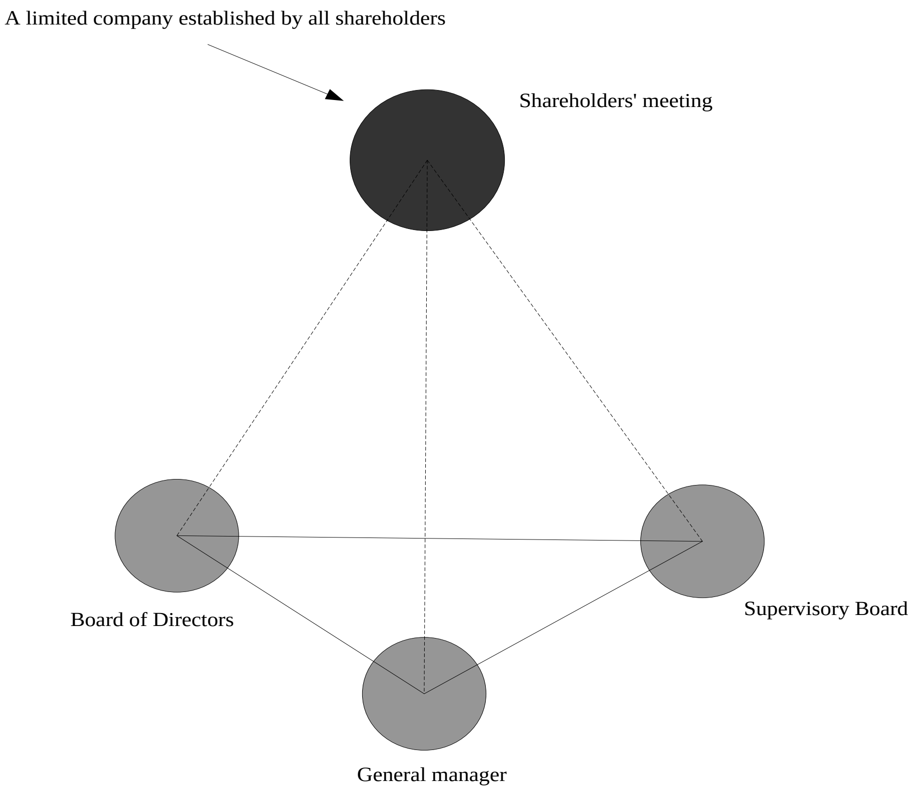


Figure 1: Corporate governance structure chart

The general meeting of shareholders is the "peak" of the company's value orientation. In order for the company to maintain and strive for the best business, the company's value is reflected in the three "upper layers" of the board of directors, the general manager and the board of supervisors. The "points" check and balance each other to form a "triangle". The "points" and "triangles" form a "cone".

In addition, further standardizing and promoting the construction of the investor system is conducive to improving the management level of listed companies, thereby promoting the long-term, sustainable and rational development of the capital market. Institutional investors have become key players in corporate governance. They have warned financially troubled companies and questioned management's compensation packages. The behavior of institutional investors partially corrects the misjudgment and short-term behavior of managers, improves the transparency of company information, and enhances the value of the company. This is because institutional investors can effectively allocate resources and increase market stability by distinguishing the quality of listed companies and checking stock prices according to the company's fair value [12]. Institutional investors may use their professional privileges to oversee the management activities of public companies and to participate in corporate governance. Empirical research shows that institutional investors hold large shares and have high expected returns. It can effectively restrain the management of the company, make the management pay more attention to the actual performance of the company and reduce speculation. It has the right to block motions that harm shareholders, and institutional investors have the ability and motivation to participate in corporate governance. The factors that investors influence corporate governance decisions are shown in Table 1:

Table 1: Factors Influencing Investors' Participation in Corporate Governance Decisions

Internal factors	Impact ratio	External factors	Impact ratio
Shareholding ratio of shareholders	30%	Takeover mechanism	23%
Monitoring costs	23%	Information asymmetry problem	18%
Number of Governing Companies	9%	company value	16%
Potential liquidity cost	15%	Shareholding structure	16%
holding time	10%	The degree of perfection of corporate governance structure	14%
risk appetite	13%	legal environment	13%

When establishing an institutional investment model to analyze the factors that affect investors' participation in corporate governance decisions, in addition to the consensus on institutional investor ownership and regulatory fees, it also analyzes other influencing factors [13]. When these influencing factors are combined, it will inevitably lead to complicated situations and unclear rights and responsibilities. At this time, a legal protection model is needed to protect the operation of the company.

Whether it is management or investors, their legal protection starts from personal data. Personal data protection law is not only a technology-driven law, but a social problem caused by the application of information technology. It stems from a synthesis of ideological, social, economic, political and technological factors [14]. Privacy law is about protecting the interests of individuals who have been made so vulnerable by technological change, but privacy rights are not unlimited. "Since Roman times, all legislative action should be based on the public rather than private interests, and the legitimacy and authority of the law is usually the premise of the pursuit of the public interest."

As the cost of supervision increases, the willingness of institutional investors to participate in decision-making on the governance structure of listed companies will decrease. Institutional investor monitoring costs include several aspects, the most important of which is the cost of information acquisition. Institutional investors, as professional investment institutions, generally have the ability to obtain effective information through some public and private channels. For example, public information is obtained from public companies or other institutions, and private information is obtained from other external analysts. With the implementation of the share-trading reform, listed companies have strengthened their investor relations management. It is necessary to reduce the information asymmetry between investors and companies in various ways, affect investor behavior, and enhance investors' confidence in company stocks. At the same time, the relevant legal system is constantly improving. The construction of the information disclosure system has also been continuously improved. In addition, the continued expansion of the securities market provides institutional investors with investment options. The number of listed companies continues to grow, and the number of listed companies in the portfolio helps reduce regulatory costs. As a result, institutional oversight costs will generally gradually decrease.

In addition, it is found that the willingness of institutional investors to participate in listed companies' governance decisions is positively correlated with the improvement of listed companies' expectations. The greater the company's expectation of future value-added space, the more enthusiasm for institutional investors to participate in corporate governance. The more likely institutional investors are to hold equity in listed companies with complete governance decisions, the lower their willingness to actively participate in the governance of listed companies. It takes a certain cost for institutional investors to actively participate in the governance of listed companies. If the probability of the governance structure of listed companies is perfect, then institutional investors are likely to obtain higher profits without actively participating in the control structure of listed companies. However, from the overall situation of the securities market, there are still major flaws in the control structure of listed companies. We should actively cultivate institutional investors and promote active participation in the governance structure of listed companies. At the same time, the legal protection of investors and corporate governance decisions needs to be strengthened.

Due to the rapid development of the Internet, there are prominent problems in the protection of personal data, and there is no special legislation on the protection of personal data. There are only scattered provisions in some laws and regulations, and there is no specialized agency responsible for personal data protection. In response to this problem, an information security evaluation and certification center should be established, responsible for protecting personal data and business secrets on the Internet, identifying network users, and clarifying rights and responsibilities. The purpose is to protect individuals and enterprises from using the network, and to achieve the effect of protecting information by monitoring unauthorized use of information.

Law and society are not one-dimensional, but interact and co-evolve. The paradigm of co-evolution of law and society can be expressed as differentiation, enhancement of adaptation, inclusion, and generalization of values. The development of social systems is always towards complexity, and complexity means diversity and pluralism, which is manifested as a trend of "differentiation" of interests. Different social subsystems must satisfy differentiated interests. Therefore, there are more and more levels of social systems, leading to changes in the social structure, and sub-fields with increasingly complex functions such as law, politics, and economics are gradually being formed. With the emergence of differentiation, there is the concept of "adaptive upgrade". A newly created social subsystem always has less complexity than an undifferentiated one. Because only complexity can reduce complexity, the new social subsystem is more complex than the original social subsystem, and of course has a stronger ability to "adapt to upgrade". As a subsystem different from the social system, the legal system will be able to meet new functional requirements. The legal system must be "inclusive" in "realizing" new and differentiated functions.

The social system analyzes the evolution of the legal system in the process of realizing the decision-making function of corporate governance. It can be said that the legitimation, organization, and ordering achieved in complexity are the processes that differentiate the functions of social systems. The evolution and codification of law requires the functional differentiation of social systems to achieve self-production.

3.2 Data Fusion Technology

Data fusion technology is defined as processing a series of detection, interconnection, filter estimation, information fusion and other technologies. In real-world applications, wireless sensor networks are limited in battery power, computing power, storage capacity, and communication bandwidth due to the real-world environment. Wireless sensor nodes are more vulnerable than traditional sensors. When collecting data, it is very inappropriate for each node to send data to the gateway node individually, because the energy consumption and communication bandwidth are very large. In areas with dense nodes, the data reported by adjacent nodes is redundant. When a single sensor node sends data, it will occupy and consume a lot of communication bandwidth. When nodes send data to each other, it consumes a lot of energy, which greatly shortens the life of the entire network [15]. Poor information collection capability: In wireless sensor networks, data link storage is mainly responsible for data transmission between different nodes. When multiple nodes send data at the same time, conflicts between data will continue to appear.

Data fusion is an information processing technology. It uses computer technology to perform multi-purpose, multi-stage, multi-level data discovery, evaluation and convergence according to specific criteria for network node information obtained from time series, so as to obtain target state and feature data [16]. The functional data fusion model can be summarized as the following four processing procedures shown in Figure 2.

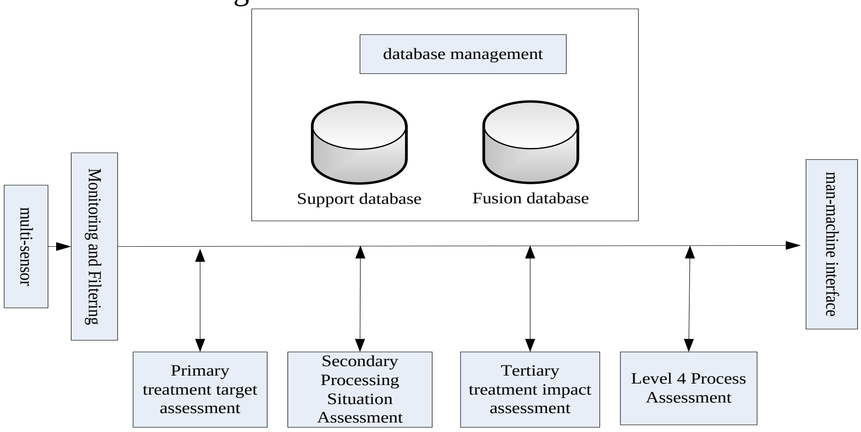


Figure 2: Data fusion model diagram

The first level of processing is the evaluation object. Its main functions include data matching, association, target tracking, parameter estimation, ID estimation, etc. The results of this processing level can be used as a reference decision for the next step of data fusion.

The second level of processing is state evaluation, which is an abstract estimate of the state of the entire wireless sensor network system. In many areas, such as enterprise governance applications, situational assessments are interconnected and interpreted, including the division and characteristics of enemy and friendly forces. It is an evaluation process of the division of the armed forces of the two sides.

The third level of processing is an impact assessment that maps the outcome of the second level situation into the future to assess the impact of the participant's expected behavior. For management purposes, this is a multi-level image processing process that can explain the evaluation of the effectiveness of governance decisions to improve company management.

The fourth processing level is process evaluation, which is a higher processing level. At this stage, real-time network fusion monitoring and evaluation is performed, and node information is obtained through a set of optimized parameters. It improves adaptive acquisition and processing, optimizes resource allocation efficiency, and ultimately improves the entire wireless sensor system network.

Due to the large range of values in the input environment and large differences according to data types, it is necessary to convert the input data into unified data [17]. The amount of data and normalization method within the range used by this system: the value ranges of different types of data are normalized to the [0,1] range, and the original data are converted into value points within the range. The calculation Equation is as follows:

$$A_i = \begin{cases} 1, & x_i \geq XF_i \\ \frac{x_i - h \cdot JM_i}{XF_i - JM_i}, & x_i < XF_i \end{cases} \tag{1}$$

In the Equation, Ai is the normalized value of parameter i, XF_i is the parameter threshold value, x_i is the parameter input value; JM_i is the reference threshold value of parameter i; h is the correction value of environmental compensation.

Sensors periodically collect environmental information, preprocess the collected environmental information, and use threshold modification algorithms to make local decisions. The designed threshold changes periodically as the environment changes, and the Equation is:

$$\mathrm{Local.Decision_i} = f(x_i - h \cdot JM_i) \tag{2}$$

$\mathrm{Local.Decision_i}$ is the local decision result of parameter i; f(x) is the unit step function; h is the correction value of environmental compensation; JM_i is the reference threshold of parameter i.

Due to the randomness of corporate governance decisions, there are errors in data parameters and information storage collected by data collectors in different time periods and in different environments [18]. In order to solve this problem, this paper adopts the mean value method in local decision-making, that is, the correction value h of environmental compensation is adjusted by taking the mean value of decision-making data within a period of time. The Equation is as follows:

$$h = \overline{x_j} / x_j^0 \tag{3}$$

$\overline{x_j}$ represents the average value of parameter j in the time period. x_j^0 represents the default value of the experimental default environment parameter j. The value of k cannot be infinite, and if it is greater than 1.2, it is judged as a system error. After considering the local decision, if the random result of the local decision is 1, it means that the information data is abnormal, and it is judged that there is a possibility of decision leakage. The feature layer starts to extract these environmental information features for the next step [19].

The output vector from the data layer will be sent as input to the object layer. For this information, the feature layer will use an appropriate feature fusion processing algorithm according to the actual application to realize the association between multiple feature vectors and complete the identification of the target object. This paper uses an empirical Equation to determine the number of hidden inventory nodes. The empirical Equation is as follows:

$$y_G = \sqrt{y_i + y_0} + c \tag{4}$$

y_G represents the number of hidden nodes, y_i represents the number of input layer nodes; y_0 represents the number of output memory nodes; c represents a constant between 0-10.

S_{ij} represents the weight from the input layer to the hidden layer, and S_{ki} represents the weight from the hidden layer to the input layer. When Xj is input, the sum of the inputs to the hidden layer is $net_1(i)$:

$$\mathrm{net}_1(i) = \sum_{j=1}^{m} X_j S_{ij} \tag{5}$$

$net_1(i)$ is converted to 0~1 using the sigmoid function, denoted as Mi:

$$M_i = \frac{1}{1+\exp[-\mathrm{net}_1(i)\vartheta_1]} \tag{6}$$

The input sum of the output layer is $net_2(i)$:

$$\mathrm{net}_2(\mathrm{i}) = \sum_{\mathrm{i}=1}^{\mathrm{m}} \mathrm{M_i S_{Aki}} \tag{7}$$

$net_2(i)$ is converted to 0~1 using the sigmoid function, denoted as N_k:

$$\mathrm{N_k} = \frac{1}{1+\exp[-\mathrm{net}_2(\mathrm{k})\vartheta_2]} \tag{8}$$

Here, ϑ_1 and ϑ_2 are determined by the gradient of the transfer function, and the final values are $\vartheta_1 = 1$ and $\vartheta_2 = 1.2$, and then run the BP neural network training. In the learning process of BP neural network, when m inputs are sent to the input layer, N_k is obtained by expression. Through the Equation and the mentor signal $\widetilde{N_k}$, the average error E_m can be obtained.

$$\mathrm{E_m} = \sum_{\mathrm{k}=1}^{\mathrm{m}} \frac{1}{2}\left(\mathrm{N_k} - \widetilde{\mathrm{N_k}}\right)^2 \tag{9}$$

The total mean squared error E is:

$$\mathrm{E} = \sum_{\mathrm{m}=1}^{3} \mathrm{E_m} \tag{10}$$

Finally, the total mean square error E is minimized by adjusting the weight S_{ij} from the input layer to the hidden layer and the weight S_{ki} from the hidden layer to the input layer. The adjustment Equation is as follows.

$$\mathrm{S_{ij}}(\mathrm{a}+1) = \mathrm{S_{ij}}(\mathrm{a}) - \gamma_\mathrm{j} \frac{\partial \mathrm{E}}{\partial \mathrm{S_{ij}}(\mathrm{a})} \tag{11}$$

$$\mathrm{S_{ki}}(\mathrm{a}+1) = \mathrm{S_{ki}}(\mathrm{a}) - \gamma_\mathrm{j} \frac{\partial \mathrm{E}}{\partial \mathrm{S_{ki}}(\mathrm{a})} \tag{12}$$

Decision layer is the top layer of data fusion technology. According to the above introduction, the data storage output is the probability value calculated by the BP neural network algorithm, so if the probability of changing the decision data output is about 0.5, it will be unclear. Therefore, the fuzzy decision output of the highest level of design data fusion technology is introduced to obtain more accurate results. Figure 3 shows the main block diagram of this fuzzy control.

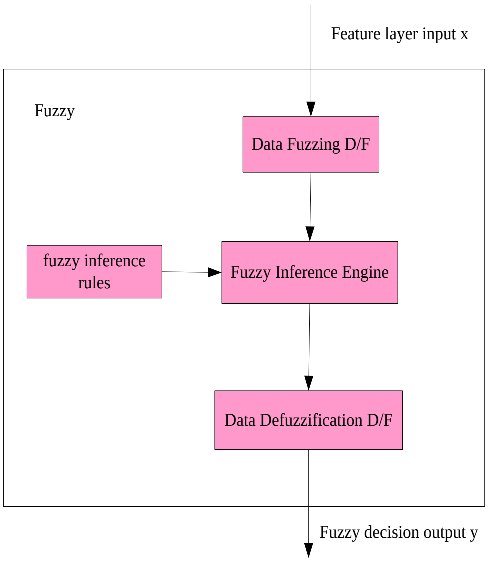


Figure 3: Fuzzy control principle block diagram

Membership function is a quantitative description of fuzzy concepts, which is used to express the degree to which objects have specific fuzzy properties or belong to fuzzy concepts. There is no uniform standard for selecting member characteristics. The choice of membership feature type is determined by people's overall experience [20].

Fuzzy rules are combinations of common conditional statements and meanings [21]. This paper will use the minimal method (Mamdani method) to design entailment relations. Depending on the relationship between input and output, common entailment relations are:

Mamdani method:

$$\mu_{A\to B}(x,y) = \mu_A(x) \wedge \mu_B(x) \tag{13}$$

Maximum and minimum method (Zadeh method):

$$\mu_{A\to B}(x,y) = \left(\mu_A(x) \wedge \mu_B(x)\right) \vee \left(1 - \mu_A(x)\right) \tag{14}$$

Product method:

$$\mu_{A\to B}(x,y) = \mu_A(x) \cdot \mu_B(x) \tag{15}$$

4. Application Experiment of Data Fusion Technology

4.1 Role of Data Fusion Technology

The role of data fusion technology is mainly reflected in four aspects:

(1) Reduce energy consumption

It not only provides a wider monitoring area in the sensor network, but also improves the reliability of data collection. Nodes are usually dynamic, random and densely placed, sometimes it is necessary to connect multiple nodes of similar areas. The network node distribution node stores information collected from adjacent nodes, and there is a certain degree of redundancy.

(2) Improve data security

In practical applications of wireless sensor networks, the deployment of sensor nodes is usually cost-intensive. The nodes used are usually cheap, and the environment in the region where the nodes are located is usually poor.

(3) Reduce network delay and improve transmission efficiency

Given that in the fusion design, the data is first sent to the sink node, and then data fusion is performed, in terms of fusion accuracy. It is usually worse than merging the data from the network first and then sending it to the sink node [22]. Data fusion operations in the network can reduce the size of the data packets to be transmitted and optimize the transmission path. It can reasonably classify data information, reduce data collision and conflict, reduce network congestion, and improve bandwidth utilization.

(4) Optimize network resources and improve overall network performance

Data fusion technology can reduce the energy consumption of the network, and at the same time ensure the energy balance of the network nodes. It avoids energy holes, maximizes the lifetime of individual nodes, and improves the integrity of the entire network.

Energy consumption is a concern of data fusion technology. In general, the computational overhead of data is much smaller than the communication overhead, so only the communication overhead is considered. The communication overhead results of different algorithms in the experiment are shown in Figure 4:

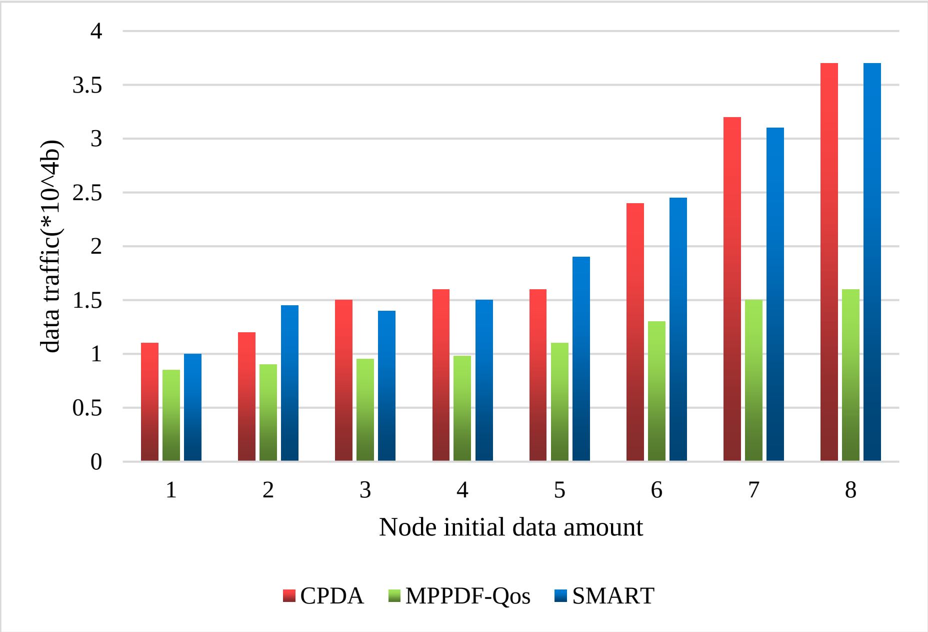
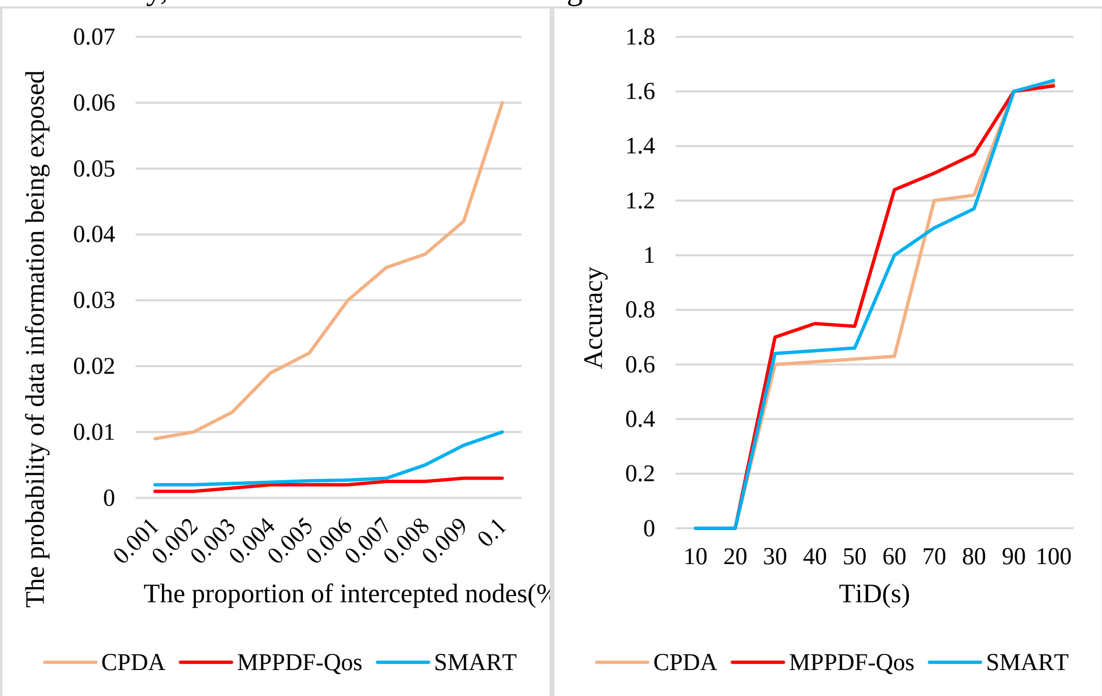


Figure 4: Communication overhead

Data fusion methods require each network node to use a different shared secret key to establish a connection with another node, making it extremely unlikely to be intercepted by integrity. Therefore, only possible coordinated attacks should be considered [23]. To be safe, there should be at least 3 nodes per group. So the lowest consistency level assumes a set of 3 nodes, followed by a set of 4 nodes. In the CPDA scheme, nodes generate one to reduce the possibility of private data exposure. Interference data is added to the transmitted data as random numbers. Data interference can reduce the risk of data leakage, but often affects the accuracy of the results. The experiment compares its safety and accuracy, and the results are shown in Figure 5:



(a) Privacy protection comparison (b) Accuracy comparison

Figure 5: Performance comparison results

The probability of CPDA information exposure is the largest, indicating that its privacy protection performance is the worst and QoS data fusion is the best. The accuracy of SMART has little to do with the size of n, and its value is mainly related to the size of TiD. The more data it has, the more data it sends to other nodes, the more collisions there will be, which will reduce accuracy. The consistency protection system based on layered QoS data fusion avoids data collision in some layers, so it can obtain relatively ideal data fusion result accuracy [24]. The overall simulation results and experimental output results of the experiment are shown in Figure 6 and Figure 7, respectively:

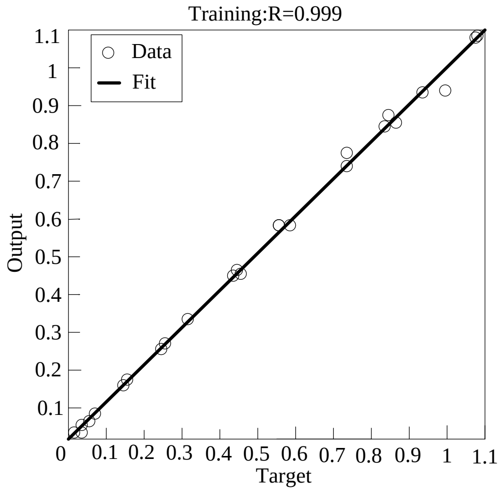


Figure 6: Experimental simulation results

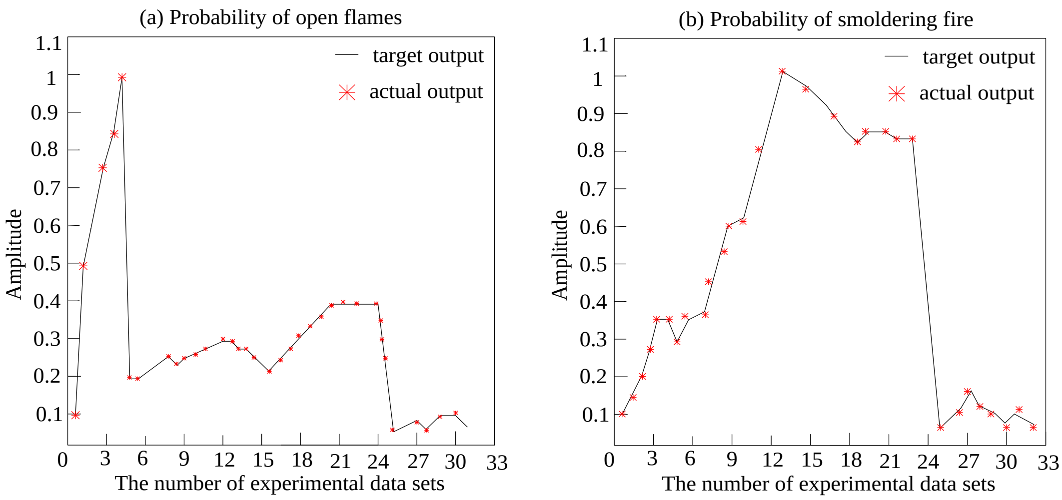


Figure 7: Overall output comparison chart

Figure 7 shows the overall output of the functional layer data simulation, with the actual data points evenly distributed over the actual data line. The two graphs in Figure 7 compare the actual and expected outputs of the functional layer BP neural network under open and protected conditions, respectively. The combination of Figure 7 and Figure 6 shows that the total system error is very small and meets the system requirements.

4.2 Efficiency of Data Fusion Technology

When an event occurs in a particular area, the environmental parameters of that area will of course change. If changes in these parameters are to be monitored, a suitable event detection system needs to be developed. When designing this detection scheme, some technical problems need to be solved, such as:

(1) The occurrence of events is unpredictable. Events can happen anytime, anywhere. When developing an event detection scheme, sleepy nodes may be missed.

(2) Events are complex and polymorphic, so various event detection algorithms are needed to detect them. Designing a relatively common event detection schedule is actually a challenge.

(3) In wireless sensor networks, if the nodes are not evenly distributed, the performance parameter data of the event detection scheme in each node area will be inconsistent.

(4) Since wireless sensors generally require algorithms with low power consumption, the design of the detection scheme should not be too complicated, and the use of distributed algorithms can improve efficiency.

By summarizing, the monitoring schemes can be roughly divided into two categories: threshold-based event detection and pattern recognition-based event detection. The experimental comparison results of the performance and efficiency of the data fusion technology and the other two algorithms in the experiment are shown in Figure 8.

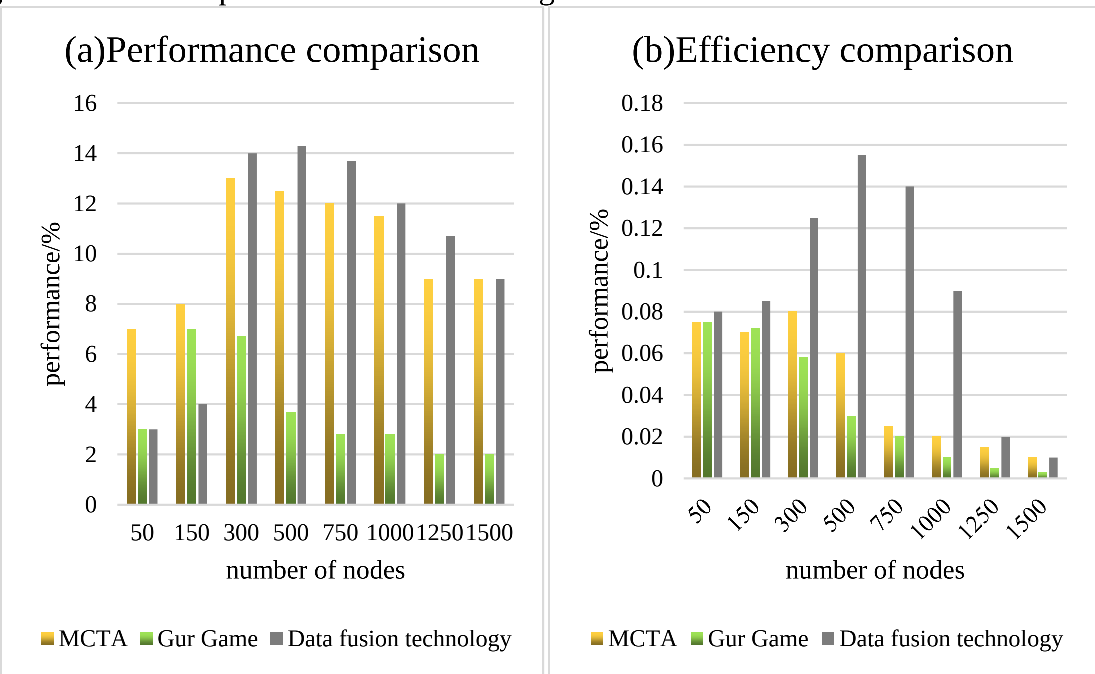


Figure 8: Performance and efficiency comparison results

The data fusion technique proposed in this paper outperforms the MCTA and OurGame algorithms in terms of fusion quality and efficiency. It is also found that the algorithm proposed in this paper can reach the average efficiency within 600 seconds after the simulation process starts. This shows that the algorithm proposed in this paper is more efficient than the other two methods. For example, in a 300-node wireless sensor network, the efficiency value can be higher than 95%. The reason is that the algorithm can effectively improve the system efficiency and the detection efficiency of governance decisions, and the efficiency can be guaranteed even in the case of dense wireless sensor networks.

Experiments test the information fusion ability. The information fusion process in Scheme 1 assumes that M is equal to 1. This means that sensors inside and outside the sensing area can be efficiently fused for maximum probability of control decisions. In addition, sensors outside the sensor range were set with three different probability of occurrence, 0.2, 0.4, and 0.9. Within the sensor area, the LACU algorithm calculates the fusion probabilities of each sensor node as 0.1, 0.3, and 0.8, respectively. Table 2 shows the data fusion results of the proposed data fusion algorithm.

Table 2: Data fusion results

Sensor 1	Sensor 2	conflict	Two sensor fusion (%)
0.1	0.2	0.24	0.0121
0.1	0.4	0.56	0.1124
0.1	0.9	0.80	0.5218
0.3	0.2	0.54	0.1473
0.3	0.4	0.55	0.5146
0.3	0.9	0.54	0.9148
0.8	0.2	0.71	0.3146
0.8	0.4	0.52	0.7926
0.8	0.9	0.23	0.9783

From the experimental results in Table 2, it can be seen that if the fusion probability exceeds 0.5, the final probability can be kept within a narrow range. Therefore, the faulty sensor itself does not lead to data intrusion. Furthermore, the high probability of both sensors significantly improves the accuracy of detecting management decision events.

5. Conclusion

The idea of data fusion comes from different nodes while keeping the minimum amount of data transfer. It mainly refers to the data fusion of a single information sensor in space and time. The algorithm proposed in this paper is compared with several other data fusion algorithms, taking the comparison results of MCTA and OurGame algorithm fusion data as an example. The results show that the data fusion technology algorithm proposed in this paper can improve the efficiency more effectively. It can handle redundant data and obtain more accurate environmental measurements, and the algorithm has been implemented on a small scale in a prototype system. Subsequent tasks apply the algorithm to a larger real-world environment to verify the scaling effect of the algorithm. This enables it to monitor the company's data in a timely and effective manner when making governance decisions, so that the legal protection mode can be activated in a timely manner to safeguard the company's best interests.

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