Hindawi
International Transactions on Electrical Energy Systems
Volume 2023, Article ID 9827102, 1 page
https://doi.org/10.1155/2023/9827102

Retraction

Retracted: Legal Path of Rural Revitalization for Decision-Making Risk Prevention of Internet of Things Algorithm

International Transactions on Electrical Energy Systems

Received 15 August 2023; Accepted 15 August 2023; Published 16 August 2023

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

(1) Discrepancies in scope

(2) Discrepancies in the description of the research reported

(3) Discrepancies between the availability of data and the research described

(4) Inappropriate citations

(5) Incoherent, meaningless and/or irrelevant content included in the article

(6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] W. He and H. Ding, "Legal Path of Rural Revitalization for Decision-Making Risk Prevention of Internet of Things Algorithm," *International Transactions on Electrical Energy Systems*, vol. 2022, Article ID 4044690, 13 pages, 2022.

Hindawi
International Transactions on Electrical Energy Systems
Volume 2022, Article ID 4044690, 13 pages
https://doi.org/10.1155/2022/4044690

Research Article

Legal Path of Rural Revitalization for Decision-Making Risk Prevention of Internet of Things Algorithm

Wenqiang He[1] **and Haolun Ding**[2]

[1]*College of Management, North Sichuan Medical College, Nanchong 637000, Sichuan, China*
[2]*Beijing Wodong Tianjun Information Technology Co., Ltd., Chengdu Branch, Chengdu 610041, Sichuan, China*

Correspondence should be addressed to Wenqiang He; chenru@nsmc.edu.cn

Received 29 June 2022; Revised 30 July 2022; Accepted 6 August 2022; Published 23 August 2022

Academic Editor: Raghavan Dhanasekaran

The implementation of the rural revitalization strategy is an important strategic plan to solve the social "three rural" problems on the new road of building a socialist modernized country in an all-round way. It is also the current society to promote the comprehensive rule of law and to create and improve a modern rural social governance system under the leadership of the party committee, the government is responsible, the society is coordinated, and the country is governed by law. However, due to the wide distribution of rural areas and the large population base of farmers, there are many risks in the implementation of the rural revitalization strategy. In the comprehensive use of economic, administrative, and legal means, legal means has become the key. For this reason, this article conducted in-depth research on the legal path of rural revitalization under the risk prevention of Internet of Things algorithm decision-making. The research results showed that the risk prevention of Internet of Things algorithm decision-making was introduced into the research on the legal path of rural revitalization, and a sound rural governance system that combined autonomy, rule of law, and morality is an important part of the revitalization of seven villages. It can improve the 2.67% effectiveness of risk prevention in decision-making and can also play a key role in ruling the country according to law, showing the correct direction of agricultural legal system construction and at the same time high-level rural construction and development under the framework of the rule of law. It will vigorously promote the comprehensive modernization of agriculture, the comprehensive progress of rural areas, and the revitalization and development of rural areas.

1. Introduction

In the development of the Internet of Things algorithm in recent years, it has become a more and more realistic and mature technology. At the same time, it provides an effective way to promote the integration of decision-making risk prevention and rural revitalization. However, because the Internet of Things algorithm and rural revitalization are still the legal system for rural revitalization. In order to alleviate the weaknesses in the path, it is very necessary to introduce the two into the legal system of rural revitalization. Therefore, in view of the long-term risks in rural revitalization, this article studied the legal path of rural revitalization under the risk prevention of Internet of Things algorithm decision-making. It has become the top priority of promoting rural revitalization and development.

In order to provide a new utilization approach and approach for the development and utilization of rural homesteads, Liu analyzed the overall development model of rural idle homesteads from the perspective of leisure agriculture and conducted research on the development and utilization of idle industries based on rich practical cases [1]. Since rural revitalization still faces many challenges, Yi et al., on the basis of analyzing the characteristics and problems of rural development in southern Jiangsu, proposed methods and paths for rural revitalization [2]. As traditional legal scholarship often comes under fire, Lobel proposes the "Goldilocks Way" of scholarship as the best way to spread knowledge and ideas. This Goldilocks path lies in producing

a balance between traditional and nontraditional works [3]. To address the problem that transplanting foreign laws or legal systems does not take place in a legal cultural vacuum, Husa discussed the implications of so-called path dependence for legal transplants [4]. Because the personalized education path is a new form of psychological and teaching assistance, Sikorski tried to use the legal approach to conduct research in the field of personalized education [5]. Starting from a better understanding of the premise that legal efforts to enforce European normative human rights norms in prisons cannot ignore prisoners' subjective experience of rights, Cliquennois et al. explored the complaints of Romanian prisoners [6]. Pravdiuk examined the constitutional and legal issues that study the composition of the object of land relations and analyzed the scientific viewpoints that interpret the meaning of the word "land" in national legal doctrines [7]. It can be seen that the research results on the legal path of rural revitalization have been very rich, but the research results on the Internet of Things algorithm and decision-making risk prevention are very rare. In order to solve this problem, this paper studied the risk prevention of Internet of Things algorithm decision-making and the legal path of rural revitalization.

Chang et al. analyzed the current real-time monitoring system of IoT production environment risk factor detection based on grey-related IoT security sensors and proposed a design scheme based on grey-related IoT environmental monitoring [8]. To combine the medical IoT and case-based reasoning in response to the growing global attention, Tang et al. aimed to develop a medical IoT-based geriatric care management system [9]. The purpose of Williams et al. was to synthesize and analyze the existing evidence on sustainable smart manufacturing and to analyze and estimate the link between business process optimization and cognitive decision algorithms [10]. Wang aimed to further promote the promotion and application of the Agricultural Internet of Things to solve the practical problem of low transmission efficiency in agricultural data transmission [11]. Solovie et al. described the social and medical protection of personnel and populations in hazardous industries in emergency situations and where exposure levels to risk factors may exceed established safety standards [12]. Aiming at the inability of the evaluation framework to deal with complex fuzzy indicators, Huang proposed the fuzzy layering theory from the perspective of the Internet of Things for the first time by measuring the evaluation indicators of teaching quality [13]. Multi-criteria-based decision-making is a major problem facing the IIoT research community and practitioners, and Hao et al. provided several decision support systems to make decisions that have the potential to support the activities of the decision-making process [14]. Although many people have done a lot of research on the Internet of Things algorithm and decision-making risk style, few people have introduced these two into the research on the path of rural revitalization and the rule of law. In order to better conduct research on rural revitalization, this paper introduced the Internet of Things algorithm and decision-making risk prevention into the research on the legal path of rural revitalization.

With the continuous acceleration of social modernization, people have gradually increased the intensity of rural construction in order to revitalize the rural economy. However, due to the wide coverage of rural areas, there will also be various risks and dangers when promoting rural revitalization and development. In order to promote rural revitalization and economic development, it is necessary to research and develop its legal system first, so as to ensure the smooth operation of the rural revitalization strategy. Therefore, this paper conducted an in-depth study on the legal path of rural revitalization under the risk prevention of Internet of Things algorithm decision-making.

2. Specific Content of the Legal Path for Rural Revitalization

2.1. The Overall Structure of the Internet of Things System. The key features of IoT can be summarized in the following three aspects [15]: holistic perspective, reliability, and intelligent processing. First of all, the perception layer of the Internet of Things is composed of various sensor nodes. These sensor nodes can collect and perform different information and tasks. So the Internet of Things has the characteristics of comprehensive perception. Second, in order to determine the interaction and sharing of data, IoT is characterized by reliable transmission. Finally, many advanced technologies, such as sample identification, grid analysis, and cloud computing, can be applied to the IoT to analyze and extract massive data in the IoT. Therefore, the Internet of Things has the characteristics of intelligent processing. The overall structure of its specific IoT system is shown in Figure 1.

As can be seen from Figure 1, the Internet of Things can be divided into three layers: the perception layer, network layer, and application layer. The main function of the perception layer is to record object data. This layer can use radio frequency identification technology to identify and retrieve the information stored on the tag and transmit the data over the network to the central control system to determine the compatibility between the identifier and the computer. Moreover, using this technology, the marker itself can have certain perception ability, and the objects can communicate with each other. The main function of the network layer is to achieve a wider range of interconnect functions. When connecting the existing Internet, mobile network, satellite communication network, sensor network, etc. to the Internet of Things, intelligent data can be processed and transmitted seamlessly, with high reliability and high security through the perception layer. In order to ensure the reliability of data and the tolerance of network errors, data integration management technology is usually used in the process of data transmission for problems such as an attack, modification, conflict, freezing, and leakage in the process of data transmission. The main function of the application layer is to run specific business applications, including smart logistics, smart transportation, smart home, smart health, smart home, smart energy, and other industry applications.

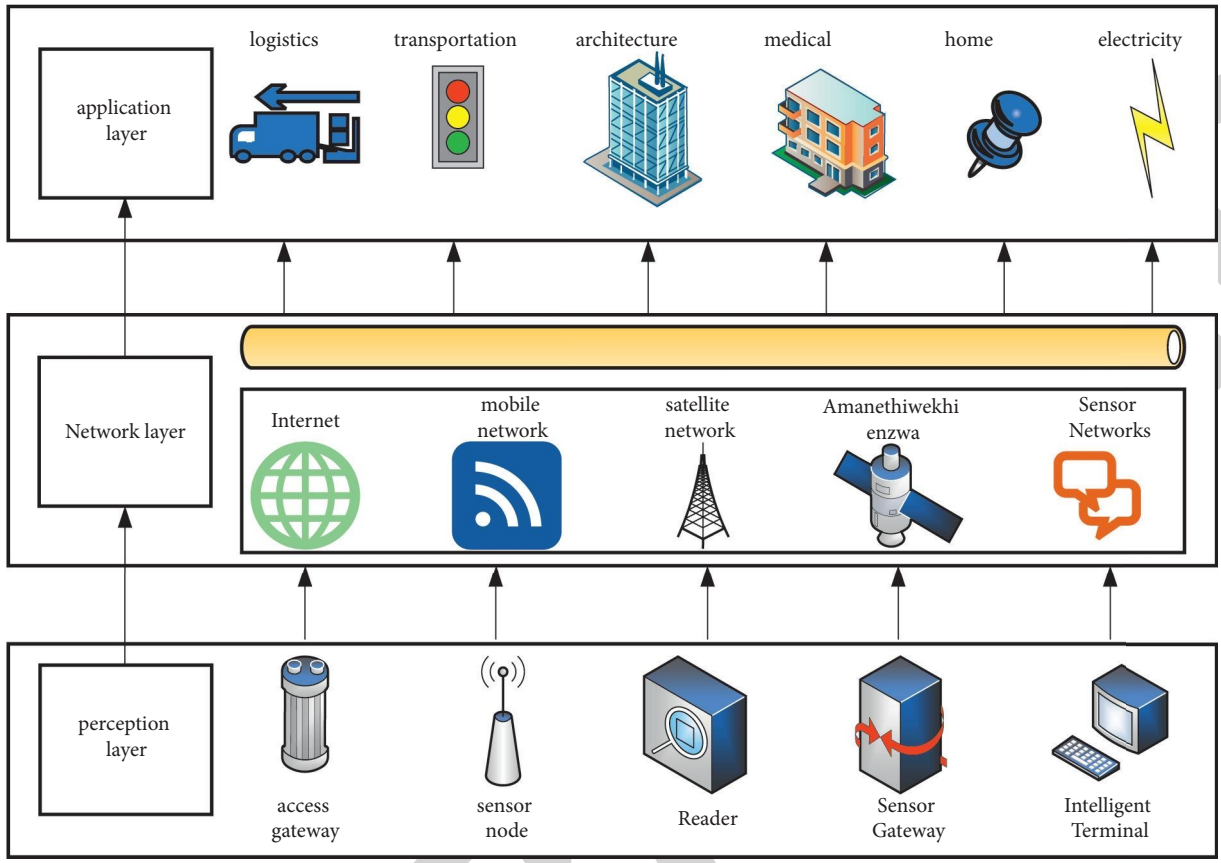

Figure 1: The overall structure of the Internet of Things system.

2.2. The Overall Architecture of the IoT System. After research on the definition and application of the IoT system, the IoT system can be divided into three parts [16]: the data collection layer, the network service layer, and the application layer. The data program layer is mainly composed of the data acquisition sublayer, short-distance communication technology, and cooperative information processing sublayer. The main function of the network service layer is to transmit data and information, and the collected data need to be transmitted to the application layer to play its role. The main function of the application layer is to combine the Internet of Things technology and professional application systems, so as to realize the application between people and things, things and things, and things and people. The specific Internet of Things system architecture is shown in Figure 2.

As can be seen from Figure 2, in the process of IoT information interaction, in the physical space, a large number of underlying networks will choose appropriate methods, and choose network distribution according to their own characteristics. The basic network can receive information between objects through technologies such as radio frequency identification, wireless sensor network, and wireless local area network, and transmit the received information to the intelligent gateway information module. The intelligent gateway information module will transmit the data to the network fusion system and then transmit it to the end user. The formation of the Internet of Things is to complete the interaction between people, things and things, and people and things. Therefore, while the network transmits information to users, users can also control and manage the network according to their own needs. The distribution of the underlying network includes wireless sensor technology, radio frequency identification technology, and some other heterogeneous networks, and the underlying network mainly uses these technologies to realize the collection and perception of data information. The main work of the access part of the aggregation gateway is to transmit the data information collected by the underlying network to the network, which is divided into two ways: wired and wireless. The wired ones are through some transmission media such as cables and optical fibers, and the wireless ones are mainly through some wireless communication technologies, such as Bluetooth, IoT sensors, 5G, and wifi. Smart gateways play the role of connecting past and future lives and need to be able to deploy the network smoothly with the network system integrated at the bottom and top. A network is essentially a combination of three networks: a broadcast network, the Internet, and a communications network, through which information is passed to end users, who activate and manage the network as needed.

2.3. Rural Intelligent Building Architecture. The Internet of Things is a new concept proposed in recent years, and its application design is relatively dependent on the background. For this reason, this paper used the Internet of Things architecture to show the hardware architecture of rural intelligent

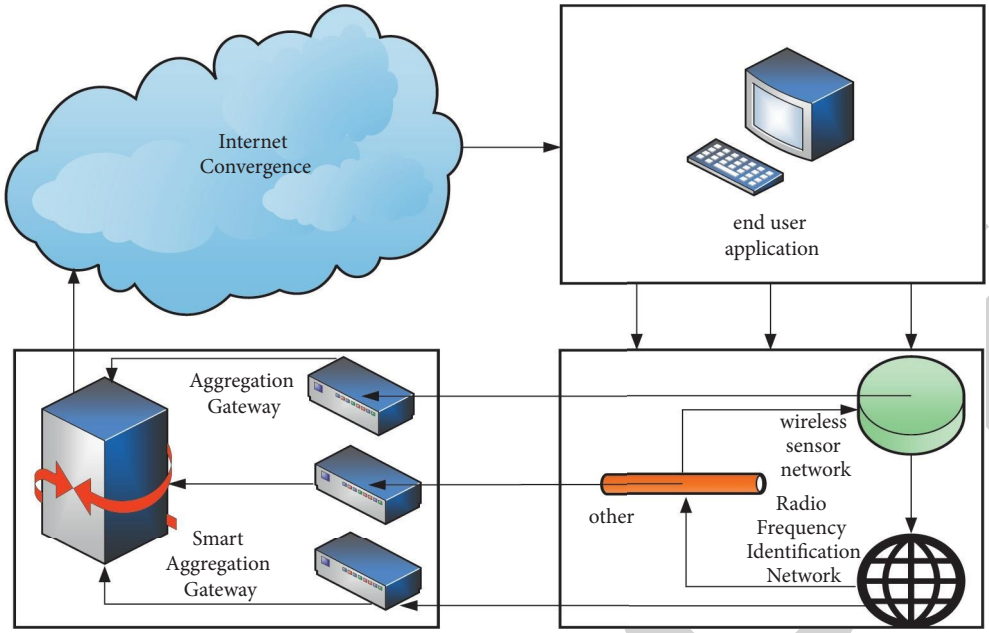

Figure 2: The overall architecture of the IoT system.

buildings [17], the rural intelligent building architecture is divided into four layers: the final data analysis and equipment control layer, the network access and transmission layer, the intermediate processing layer, and the presentation layer and its specific architecture is shown in Figure 3.

As can be seen from Figure 3, terminal data encryption and application management: this layer is responsible for storing home environment information, the location of each application, video information, power information, and security information. In addition, the control part of each application device needs to be connected to the network. The network access and transport layer is widely used to insert multiple view and control modules in the network, and access the back-end network through a multi-channel gateway, where the back-end network can be either a network or a mobile network. Since there are many types of smart devices and control devices, and none of them have a single access function, the most basic device is the smart gateway, which can access different networks at the same time and realize intelligent forwarding of information. The middle processing layer is essentially a large data center for storing and analyzing the data transmitted from the bottom layer. Therefore, it requires the data center to have strong fault tolerance and a large amount of energy, as well as the support of automatic energy expansion. The presentation layer is important for providing useful information to the user. Generally, home environment information, video information, and multi-device function information are input into the main control center of the building through the Internet, and safety information is displayed [18].

2.4. Rural Industrial IoT Architecture. The term "Industrial Internet" was coined by electrical giants to describe industry changes in interconnected fields such as devices, physical network systems, advanced analytics, artificial intelligence, humans, and the cloud. The Industrial Internet of Things is a new business ecosystem that combines intelligent automation tools, advanced predictive analytics, and robotic collaboration to increase industrial productivity, efficiency, and reliability. A general IoT architecture can be divided into the application layer, network layer, field control layer, and perception layer. Its specific structure is shown in Figure 4.

As can be seen in Figure 4, the perception layer receives information from devices, tags and RFID readers, cameras, GPS, and sensors. At this stage, wireless sensor systems with sensors can automatically understand the information exchange between different devices and manage them from a remote location. The on-site control layer mainly provides the first external view of the data center and completes local control, which is equivalent to the local message control center. The network layer is critical for transmitting messages and processing information, the role of this layer is to connect everything and allow them to share information with each other. The application level is the Internet of Things application, which uses technology to increase the production process according to the needs of industrial applications. Like IoT, built-in IoT covers a wide range of industries and applications, offering many opportunities for automation, optimization, manufacturing, transportation, smart industry, and the chemical industry, but the Industrial IoT is still in development. Although its prospects are high, some challenges remain. For rural industries, sharing data in open networks and IoT architectures will bring greater challenges as data are more sensitive, and the loss of sensitive information can lead to significant business losses. It is therefore necessary to manage the industrial environment through a real-time communication network.

2.5. Network Architecture Based on Open Flow. Network architectures based on open flow provide real-time solutions for time-activated flows by separating trigger flows in space or time

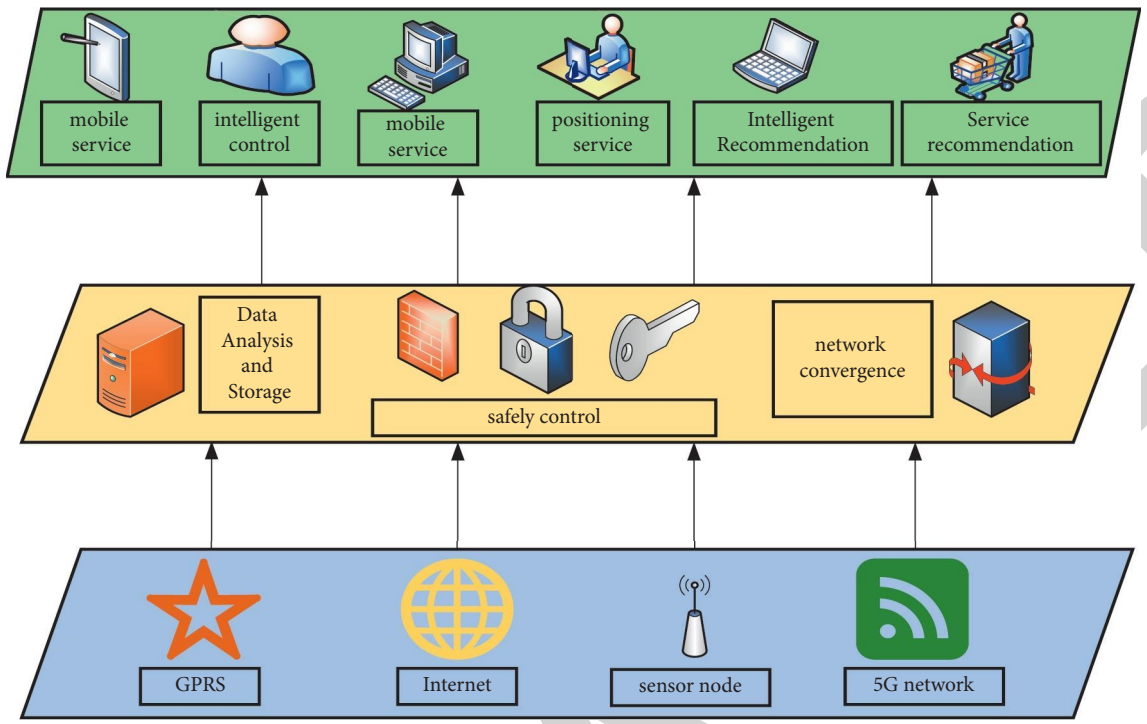

Figure 3: Rural intelligent building architecture.

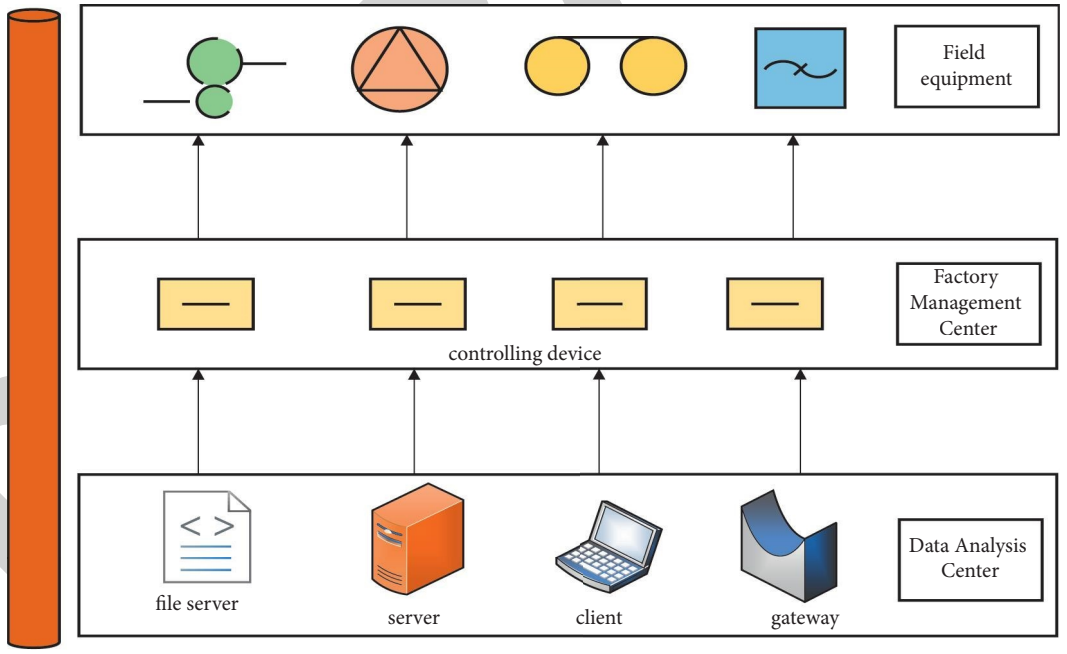

Figure 4: Rural industrial IoT architecture diagram.

[19]. In order to conduct in-depth research on the legal path of rural revitalization under the Internet of Things algorithm, this paper studied the network architecture based on open flow, and its specific network architecture is shown in Figure 5.

As can be seen from Figure 5, if it is assumed that the time stream source pulls unicast packets at a constant bit rate at the end of the trip, the time period is transmitted at an integer time less than that time. Base cycle support is ideal for sensors that use constant sampling times or processors that require input commands within a given time interval. Streaming in premium packets is only possible with trigger time, so it is also a preferred destination for other low traffic. Furthermore, all endpoints will periodically synchronize their clocks using the

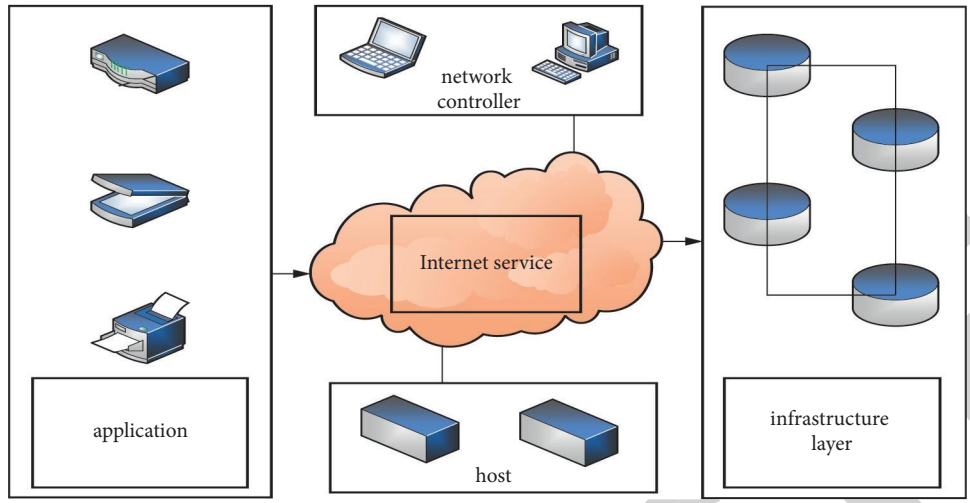

Figure 5: Network architecture diagram based on open flow.

standard time process and ensure all time intervals, if it is assumed that each application-level data will fit on the network port of the maximum transfer size. All time streams have the same priority, so additional planners are required to manage delayed time streams. Among them, the data layer is responsible for forwarding and promoting network components, while the control layer is responsible for configuring the data layer. With software-defined networking, the control layer is shifted from network components to network controllers, which communicate with standard servers via the so-called southern interface. The network controller is centralized in thinking, which means that it has a comprehensive understanding of network components, topology, services, etc., which is conducive to the implementation of network management strategies such as routing and scheduling.

3. Rural Revitalization Legal Path Utilization Algorithm

3.1. Time-Triggered Flow. By reducing the number of connections used to simplify the process [20], and finding better design concepts, improved time transfer scheduling can be achieved, which is calculated as follows:

$$u_n = M \sum_{i \in T} \sum_{j \in E} f_{ij}. \tag{1}$$

3.2. Optimize the Number of Target Links.

$$\sum_{k \in T} t_{ik} = 1. \tag{2}$$

3.3. Time Slot Constraints. Each information flow is allocated exactly one-time slot [21], and its calculation formula is as follows:

$$\begin{cases} \sum_{j \in in} f_{ij} = 0 \\ \sum_{j \in out} f_{ij} = 1. \end{cases} \tag{3}$$

3.4. Routing Constraint Function.

$$\begin{cases} \sum_{j \in in(dst(i))} f_{ij} = 1 \\ \sum_{j \in out(dst(i))} f_{ij} = 0 \end{cases}, \tag{4}$$

where $\text{in}(dst(i))$, $\text{out}(dst(i))$ represent the input and output of the destination host, respectively.

3.5. Conflict Avoidance Constraints. Collision avoidance constraint makes all network links occupied by at most one flow in any allocated time slot, and the calculation formula is as follows:

$$\sum_{\forall i \in TS} y_{i,j,k} \le 1. \tag{5}$$

3.6. Variable Value.

$$y_{i,j,k} = f_{i,j} * t_{i,k}. \tag{6}$$

For stream i, link j, and slot k, the variable y may be equal to 1 only if the variables $f_{i,j}, t_{i,k}$ are both equal to 1.

3.7. Fitness Function. In the genetic algorithm, a person's applicable status is generally determined by the individual's pros and cons, so it is very important to choose a fitness function. The calculation formula is as follows:

$$f(x) = \frac{1}{u_n - a}, \tag{7}$$

where a represents a constant, u_n represents the objective function, and $f(x)$ represents the fitness function.

3.8. Binary Multi-Knapsack Problem.

$$MP(\overline{x}) = \sum_{i=1}^{n} x_i p_i, \tag{8}$$

where $P(\overline{x})$ represents the total value of the item after it has been transferred to the backpack.

3.9. Link Capacity Constraints.

$$\sum_{k \in TS} d_k x_{ij}^k \le c_{ij}, \quad (i, j) \in E. \tag{9}$$

3.10. Threshold Parameter.

$$T(n) = \begin{cases} \dfrac{P}{1 - P(r \bmod (1/p))}, \\ 0. \end{cases} \tag{10}$$

Here, P represents the proportion of the cluster head node to all nodes in the network.

3.11. Data Volume.

$$S_i = \sum_{i=1}^{n} F_i. \tag{11}$$

3.12. Optimization Factor.

$$P_i = \frac{NF_i}{\sum_{i=1}^{n} F_i}. \tag{12}$$

Here, N is the number of different nodes and F represents the computing power and comprehensive capacity of the node in the data, that is, the data processing capacity of the node.

3.13. Time Slot Value.

$$P = \frac{\prod_{i=1}^{k} T_i F_i}{T_j F_j}, \tag{13}$$

where k is the number of node types.

3.14. Time Slot Value.

$$St_j = \frac{TP_j}{\sum_{i=1}^{k} P_i N_i}. \tag{14}$$

Here, N is the number of various types of nodes, T is the expected duration of one rotation, and the obtained St_j is the time slot value of various types of nodes calculated according to the timeliness requirement.

3.15. Energy Consumption. The energy consumption of nodes all meets the basic energy model, and its calculation formula is as follows:

$$\begin{cases} E(k, d) = Ek + \varepsilon k d^2, \\ E(k) = Ek. \end{cases} \tag{15}$$

3.16. Sensor Nodes Consume Energy by Sending Data.

$$E_s = k * E_e + k * \varepsilon_a * d^{\beta}. \tag{16}$$

3.17. The Sensor Node Consumes Energy to Receive Data.

$$E_r = k * E_e. \tag{17}$$

3.18. Mathematical Expectations.

$$E\left[d_{ch}^2\right] = \iint r^2 p(r, \theta) r d\theta. \tag{18}$$

3.19. Member Node Consumption.

$$E_{cm} = lE_e + l\varepsilon_a \frac{M^2}{2\pi k}. \tag{19}$$

3.20. Cluster Head Node Consumption.

$$E_c = E_{ch} + \left(\frac{N}{k} - 1\right) E_{cm}. \tag{20}$$

4. Methods on the Legal Path of Rural Revitalization

4.1. Literature Survey Method. Documentation survey refers to a survey method that collects relevant information by looking for documents. It is an indirect nonintrusive data survey method. It can be very helpful for enterprises or individuals to obtain relevant information. In order to obtain relevant data and concepts, this paper searched for relevant data and information through libraries and websites, so as to facilitate the later research of experimental results.

4.2. Data Source Method. Data collection refers to the process of automatically retrieving information from the analog and digital components under test, such as sensors and other devices under test. This work investigates and studies the rural revitalization data from 2015 to 2021 through the online survey method, so as to obtain corresponding specific data. Among them, for the convenience of research and analysis, this study names different villages as Village 1, Village 2, Rural 3, Rural 4, and Rural 5. The legal path of rural revitalization under the risk prevention of IoT algorithm decision-making studied in this paper is abbreviated as the legal path. In addition, this study compares and

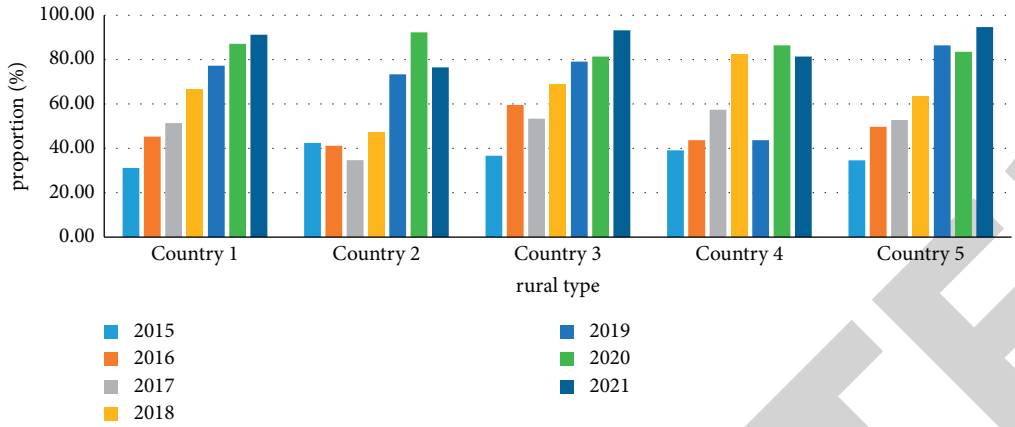

Figure 6: Different rural governance capabilities under the legal system.

analyzes the rural revitalization data under different paths, laying a solid foundation for the later analysis of the experimental results.

4.3. Data Analysis Method. Data analysis refers to the use of appropriate statistical analysis methods to analyze large amounts of data collected, understood, and aggregated to maximize the development of data services and improve data performance. In other words, data analysis is the process of training and collecting detailed data to extract useful information and make decisions. In order to obtain the specific experimental analysis data to obtain the corresponding results, this study analyzed the collected data in detail.

5. Legal Path of Rural Revitalization

5.1. Different Rural Governance Capabilities under the Legal System. One of the most important purposes of studying the legal path of rural revitalization for the risk prevention of IoT algorithm decision-making is to improve the governance capacity of the countryside. Because only when the governance capacity of the countryside is improved, the pace of rural revitalization will be accelerated, thereby promoting the continuous development of the rural economy. To this end, this study conducts an in-depth study of different rural governance capabilities under the legal system, and the specific data are shown in Figure 6.

As can be seen from Figure 6, this article selects the data on the governance capacity of different villages from 2015 to 2021. It is convenient for further research on the rural governance capacity under the legal system. In the governance capacity data of Village 1, the data from 2015 to 2021 are continuously arranged from small to large, that is to say, the governance capacity of Village 1 is increasing with time. This also shows that the rural governance capacity of Village 1 under the path of the legal system is constantly improving and improving. In the governance capacity data of Village 2, the governance capacity data of this village are different every year. Especially in 2017, the village's governance capacity data are the lowest, only about 35.6%, but after this year, the village's governance capacity data have significantly improved. It shows that the village's rural governance ability under the path of the legal system has been improved to a certain extent.

In the governance capacity data of Village 3, the rural governance capacity data in 2015 was the lowest in recent years, especially compared with the governance capacity data of the following years. It shows that the village's rural governance ability under the path of the legal system started very slowly, but the effect in the later stage is very good. In the governance capacity data of Village 4, only the data in 2018, 2020, and 2022 are above 80%, indicating that the village's legal path for rural revitalization still needs to be adhered to. In the governance capacity data of Village 5, the governance capacity data of this village are generally consistent with that of Village 1. This also shows that adhering to the legal path is very beneficial to the improvement of rural governance capabilities, but some villages need special attention.

5.2. The Degree of Rural Revitalization under the Path of Legal System. Adhering to the legal path is the best way to take the road of rural revitalization, but this does not mean that the application and persistence of the legal path can quickly revitalize different villages in a short period of time. Because different villages have different rural conditions, different villages have different degrees of revitalization under the path of the legal system. In order to better understand the degree of rural revitalization under the path of the legal system, this paper studies it from different aspects, and the specific data are shown in Figure 7.

As can be seen from Figure 7, this paper studies the degree of revitalization under the legal system from different villages. In the revitalization data of Village 1, its revitalization degree is mainly divided into three parts. One is the degree of revitalization between 2015 and 2016. One is the degree of revitalization between 2017 and 2018. The last one is the degree of revitalization between 2019 and 2021. This shows that the revitalization data of Village 1 under the legal system is distributed in stages, and its revitalization degree is constantly developing. In the revitalization data of Village 2,

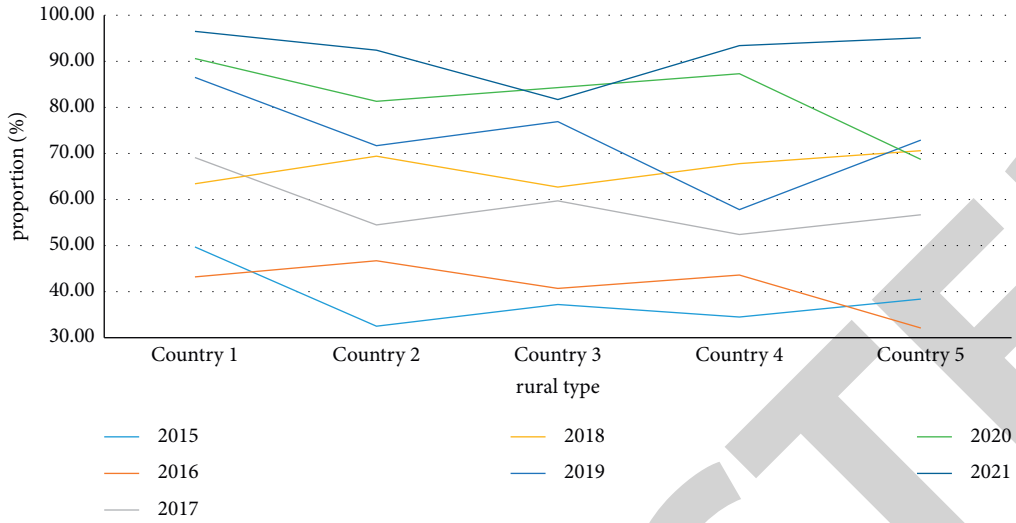

Figure 7: The degree of rural revitalization under the path of legal system.

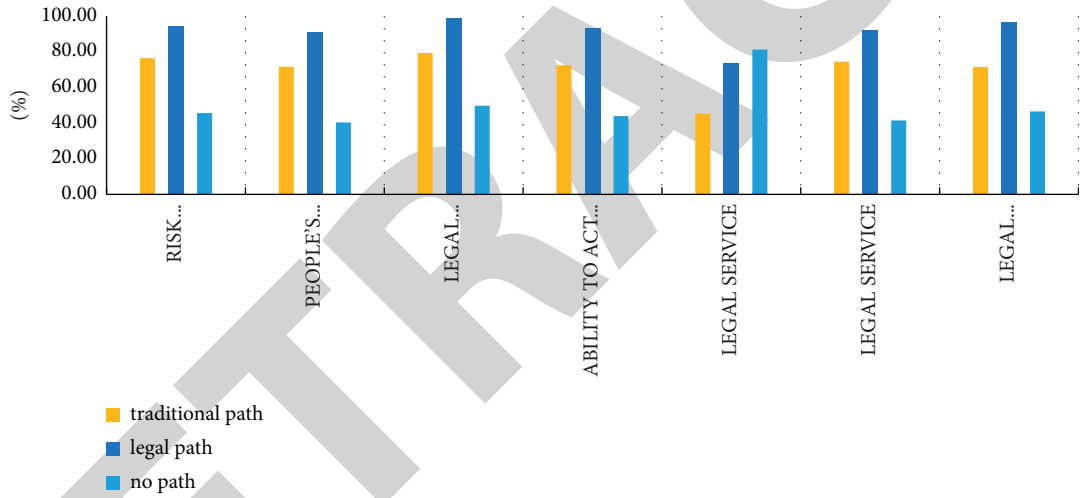

Figure 8: Comparative analysis of the use effect of different paths.

the rural revitalization data in 2015 and 2016 are relatively low and are far from the data in the following years. It shows that when the village adhered to the legal path at the beginning, the effect of rural revitalization is relatively low, and only in the later stage can the obvious effect be seen. In the revitalization data of Village 3, the degree of rural revitalization in 2021 is about 2.36% lower than that in 2020. It shows that the adherence to the legal path of Village 3 in 2021 is relatively low, which in turn leads to a lower degree of revitalization of the village than the previous year. In the revitalization level of Village 4, the rural revitalization data in 2019 are relatively low in the past few years, far less than the revitalization level of the next few years. It shows that the village is still very suitable for sticking to the legal path, but it needs to make corresponding changes in different years. In the revitalization data of Village 5, the data for 2019, 2018, and 2020 are similar. It shows that the effect of the village's legal path has not changed much in the past few years. On the whole, adhering to the legal path of rural revitalization under the decision-making and prevention of the Internet of Things algorithm is very beneficial to rural development.

5.3. Comparative Analysis of the Use Effects of Different Paths. Only studying the rural revitalization under the legal path cannot provide a solid theoretical basis and technical support for the rural revitalization legal path of the Internet of Things algorithm decision-making risk prevention studied in this paper. To this end, this study compared and analyzed the degree of rural revitalization under different paths, and the specific data are shown in Figure 8.

This article is researched and analyzed from seven aspects: risk prevention, people's satisfaction, legal credibility, ability to act in accordance with the law, legal services, legal publicity, and legal protection. It can be seen from Figure 8 that in terms of risk prevention degree, the proportion of no path is the lowest among the three paths. It shows that the rural risk prevention degree without the path is the lowest,

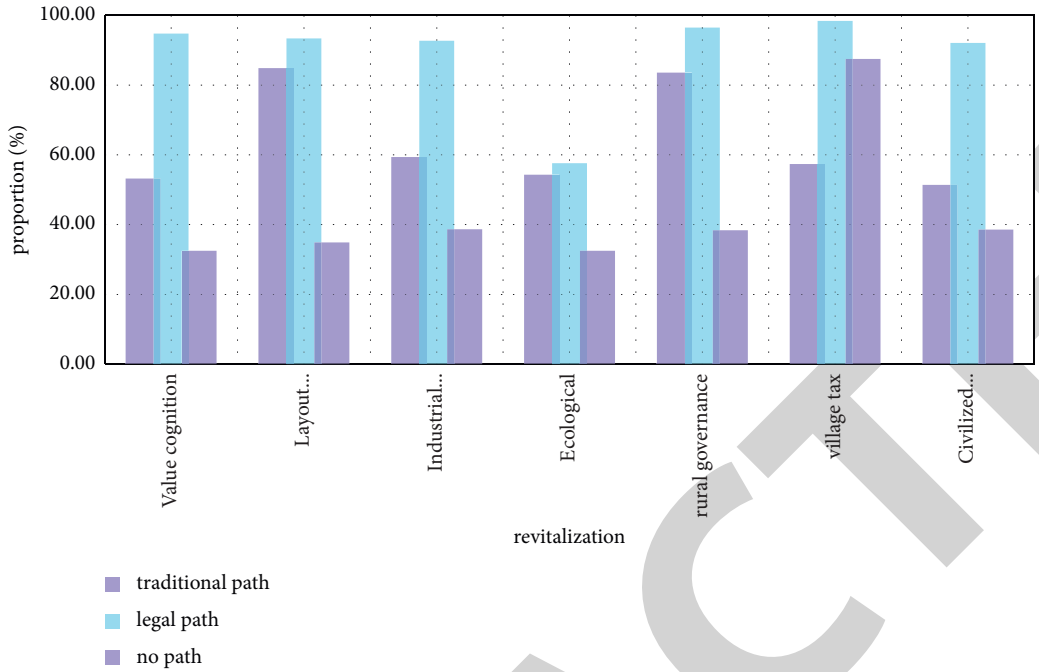

Figure 9: Comparison of rural revitalization degrees under different paths.

and it is not suitable for the development needs of rural revitalization. In terms of people's satisfaction, the proportion of the traditional route is about 20% higher than that of the no route. But this does not mean that the people's satisfaction with the traditional path is the highest, but compared with the no path, the people's satisfaction under the path is relatively high. In terms of legal credibility, the legal path has the highest proportion of all paths. It shows that the legal credibility under the legal system is the highest, which can improve the legal binding force of the countryside to the greatest extent. In terms of the ability to handle affairs in accordance with the law, the proportion of the traditional path is higher than that of the no path. However, it is also lower than the legal path, indicating that the ability to handle affairs in accordance with the law under the traditional path is relatively moderate. In terms of legal services, the effect of the legal path is lower than that of no path. The legal path still needs to be improved. In terms of legal publicity and protection, the legal path has the highest proportion. It shows that the legal path has the best effect in these aspects.

5.4. Comparison of Rural Revitalization Degrees under Different Paths. No matter which path you take, it is all about revitalizing the countryside. To understand the extent to which different paths can revitalize the countryside, detailed research and analysis of their different paths is required. To this end, this article compares and analyzes the degree of rural revitalization between different paths, and the specific data are shown in Figure 9.

As can be seen from Figure 9, this article mainly compared and analyzed the degree of rural revitalization under different paths from seven aspects: value cognition, layout optimization, industrial revitalization, ecological livability, rural revitalization, rural taxation, and civilized rural customs. In terms of value perception, the proportion of no path is the lowest among the three paths. It shows that the revitalization degree of this path in terms of value cognition is relatively low. In terms of layout optimization, the proportion of the legal path is the highest among all paths. It shows that the legal system has a relatively high degree of rural revitalization in this aspect, which can promote the economic development of the village to a certain extent. In terms of industrial revitalization, the rural revitalization degree of the traditional path is higher than that of no path, indicating that the traditional path can still promote industrial revitalization to a certain extent. In terms of ecological livability, the legal path has the highest degree of revitalization compared with the other two paths. It shows that the legal path can promote the development of ecological livability. In terms of rural governance, the proportion of no path is the lowest among all paths. It shows that the rural revitalization degree of no path is the lowest in this aspect, which is not comparable to the revitalization degree of other paths. In terms of rural taxation, the proportion of the traditional path is lower than that of the other two paths. It shows that the traditional path cannot promote the development of rural taxation to a certain extent. In terms of civilized rural customs, the degree of rural revitalization under the legal system is relatively good.

5.5. The Degree of Protection against Different Risks. The legal path of rural revitalization under the risk prevention of Internet of Things algorithm decision-making is studied in this paper. The main purpose is to prevent various risks in the process of rural revitalization. In order to conduct a more in-depth study, this article conducts a detailed study

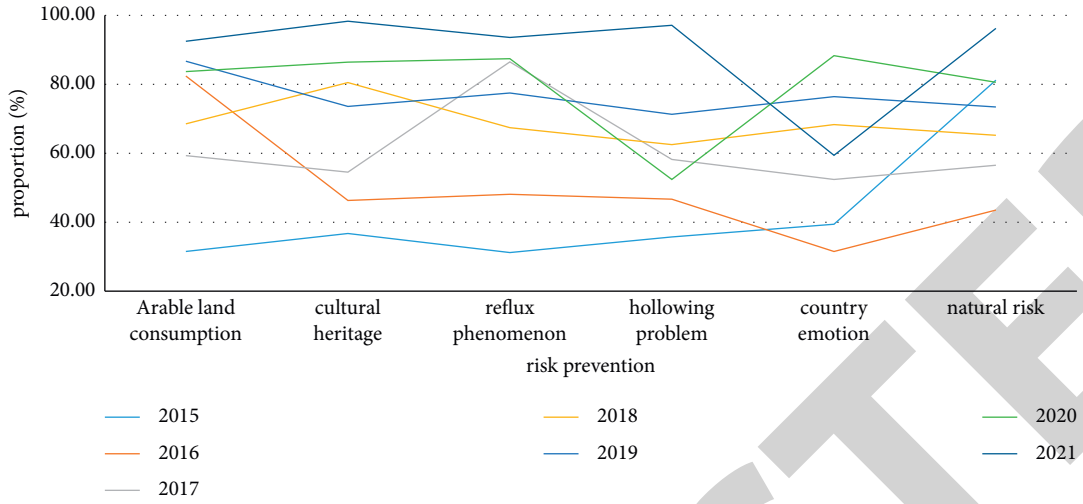

Figure 10: The degree of protection against different risks.

on the degree of prevention of different risks, and the specific data are shown in Figure 10.

It can be seen from Figure 10 that there are mainly six problems in the process of rural revitalization, including cultivated land consumption, cultural inheritance, reflux phenomenon, hollowing problem, rural emotion, and natural risk. In 2015, the share of natural risks was the highest of all risks. It shows that the rural revitalization under the legal path in 2015 can effectively face the harm caused by natural risks. In 2016, the proportion of cultivated land consumption was relatively high compared to other risks. It shows that the consumption of cultivated land has a relatively high degree of risk prevention under the legal system. In 2017, the percentage of cultural heritage was the lowest among all risks. It shows that rural revitalization under the path of the legal system cannot effectively deal with the problem of cultural inheritance. In 2018, the problem of hollowing out was the least guarded against of the six risks. In 2019, rural sentiment issues had the highest proportion of all risks. It shows that rural revitalization under the path of the legal system can prevent such problems to a large extent. In 2020, the proportion of regurgitation and rural sentiment was the highest. It shows that the prevention of these two types of problems has been greatly improved by the legal system of rural revitalization. In 2021, in addition to the problem of rural emotions, the legal path has already prevented more than 90% of other risks, and the degree of prevention is particularly high. It shows that the legal path can take strong preventive measures against various risks in rural revitalization.

6. Experimental Results of the Legal Path of Rural Revitalization

The rule of law is an important prerequisite for a good rural governance and management system. Whether rural revitalization can be put forward in a stable and correct way essentially depends on the improvement of the legal system of rural revitalization. However, in the current advancement of the legal path for rural revitalization, there will be various risk issues. These problems will greatly affect the construction pace of rural revitalization. In order to solve these problems, this paper conducted a detailed study on the legal path of rural revitalization based on the risk prevention of decision-making based on the Internet of Things algorithm:

(1) Research on different rural governance capabilities under the path of the legal system: the research results show that the rural governance capacity of Village 1 under the path of the legal system is continuously improved and improved, which can greatly promote the revitalization and development of the village. Although the rural governance capacity of Village 2 under the legal system was relatively low in the first few years, it has been improved to a certain extent in the following years. The rural governance capacity data of Village 3 in 2015 were the lowest in these years, especially when compared with the governance capacity data of the following years. It shows that the legal path at the beginning is not suitable for the governance of the village. The overall governance capacity of Village 4 is relatively low, and it is still necessary to continue to adhere to the legal path of rural revitalization. The governance capacity of Village 5 is generally the same as that of Village 1. On the whole, adhering to the legal path in rural revitalization is very beneficial to the improvement of rural governance capacity.

(2) Research and analysis on the degree of rural revitalization under the path of the legal system: the research results show that the revitalization degree data of Village 1 are distributed in stages, and its revitalization degree is constantly developing. The revitalization data of Village 2 in the first few years were relatively low, which was far from the data in the following years, indicating that the village's rural revitalization level could only see obvious effects in the later period. Village 3 has a relatively low

adherence to the legal path in the next few years and a relatively low degree of rural revitalization. Village 4 is very suitable for those who stick to the legal path but need to make corresponding changes in different years. Between 2019, 2018, and 2020, the revitalization level of Village 5 did not change much.

(3) The use effects of different paths are compared and analyzed. The research results show that the proportion of no path in terms of risk prevention is the lowest among the three paths. Compared with no path, people's satisfaction under the traditional path is relatively high. The proportion of the legal path in terms of legal credibility is the highest among all paths. It shows that the legal credibility under the legal system is the highest. Under the traditional path, the ability to handle affairs according to law is relatively moderate. The legal path has the highest proportion in legal services, legal publicity, and protection. It shows that the legal path has the best effect in these aspects.

(4) The rural revitalization degree under different paths is compared and analyzed. The results of the study show that without the path, the revitalization degree of the path in terms of value cognition is relatively low. The legal path has the highest proportion of layout optimization among all paths. To a certain extent, it can promote the economic development of the countryside. In addition, the legal path can promote the development of ecological livability. The rural revitalization degree of no path is the lowest in terms of rural governance, which is not comparable to the revitalization degree of other paths.

(5) Research and analyze the degree of prevention of different risks. The research results show that the rural revitalization under the legal path in 2015 can effectively face the harm caused by natural risks. Cultivated land consumption has a relatively high degree of risk prevention under the legal system in 2016. The rural revitalization that took the legal path in 2017 could not effectively deal with the problem of cultural inheritance. On the whole, the current legal path for rural revitalization can make decisions that prevent risks to a large extent.

7. Conclusion

Implementing the process of rural revitalization is an important goal and application of promoting rural economic development. It is an important historical task for building a moderately prosperous society in an all-round way and building a socialist country. In the process of rural revitalization, both effective grassroots management and efficient rural management can provide legal order support for industrial prosperity, ecosystem, rural culture, and prosperity. They can also provide key recommendations for advancing the implementation of the rural revitalization process. The establishment and improvement of the legal system for rural revitalization are not only conducive to maintaining regional governance and grassroots governance capabilities but also conducive to promoting the clear needs of the modernization of the rural governance system and the path of the rural legal system. Under the background of the implementation of rural revitalization, the fundamental of improving the rural governance system that combines entrepreneurship, the rule of law, and morality lies in strengthening the leadership of the village legal position and the core role of village cadres, because the rural legal system is the most basic force in rural revitalization, and Village cadres are the most important part of the rural revitalization organization. Rural revitalization in the context of the new era requires the establishment and improvement of a legal path for rural revitalization centered on the leadership of village cadres, the responsibility of the government, social cohesion, public participation, and legal protection. The rural revitalization also needs to adhere to a modern rural social order system centered on freedom, the rule of law, and moral norms, so as to effectively manage various risks and problems in rural revitalization. At the same time, a team-based, multi-themed rural governance plan and comprehensive local government plan will be created, and the legal system of rural revitalization will be improved.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that there are no conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

[1] D. Liu, "Development and utilization of rural idle homesteads in the context of rural revitalization—a case study of leisure agriculture," *Asian Agricultural Research*, vol. 11, no. 02, pp. 57–60, 2019.

[2] Z. Yi, Z. Fei, and R. Li, "The path of rural revitalization in rapidly urbanizing areas: taking southern Jiangsu as an example," *China City Planning Review*, vol. 27, no. 04, pp. 26–35, 2018.

[3] O. Lobel, "The goldilocks path of legal scholarship in a digital networked world," *Loyola University Chicago Law Journal*, vol. 50, no. 2, pp. 8–10, 2018.

[4] J. Husa, "Developing legal system, legal transplants, and path dependence: reflections on the rule of law," *The Chinese Journal of Comparative Law*, vol. 6, no. 2, pp. 129–150, 2018.

[5] J. Sikorski, "Implementation of an individualized education path at school–legal assumptions and practical solutions," *Problemy Opiekuńczo-Wychowawcze*, vol. 582, no. 7, pp. 13–26, 2019.

[6] C. Dâmboeanu, V. Pricopie, and A. Thiemann, "The path to human rights in Romania: emergent voice(s) of legal mobilization in prisons," *European Journal of Criminology*, vol. 18, no. 1, pp. 120–139, 2021.

[7] A. Pravdiuk, "Land as an object of land relations: constitutional and legal aspect," *Path of Science*, vol. 7, no. 6, pp. 1033–1042, 2021.
[8] J. Chang, X. Zuo, B. Hou, L. Shi, and G. Zhang, "Internet of things security detection technology based on grey association decision algorithm," *Complexity*, vol. 2021, Article ID 7504806, 12 pages, 2021.
[9] V. Tang, K. L. Choy, G. T. S. Ho, H. Lam, and Y. Tsang, "An IoMT-based geriatric care management system for achieving smart health in nursing homes," *Industrial Management and Data Systems*, vol. 119, no. 8, pp. 1819–1840, 2019.
[10] A. Williams, P. Suler, and J. Vrbka, "Business process optimization, cognitive decision-making algorithms, and artificial intelligence data-driven internet of things systems in sustainable smart manufacturing," *Journal of Self-Governance and Management Economics*, vol. 8, no. 4, pp. 39–48, 2020.
[11] X. Wang, "Application of 3D-HEVC fast coding by Internet of Things data in intelligent decision," *The Journal of Supercomputing*, vol. 78, no. 5, pp. 7489–7508, 2022.
[12] V. Y. Soloviev, V. F. Demin, and V. I. Krasnyuk, "Algorithm of decision-making on social and medical protection in emergency situation," *Hygiene and Sanitation*, vol. 98, no. 1, pp. 11–16, 2019.
[13] J. Huang, "An internet of things evaluation algorithm for quality assessment of computer-based teaching," *Mobile Information Systems*, vol. 2021, no. 13, Article ID 9919399, 10 pages, 2021.
[14] Q. Hao, S. Nazir, X. Gao, L. Ma, and M. Ilyas, "A review on multicriteria decision support system and industrial internet of things for source code transformation," *Scientific Programming*, vol. 2021, Article ID 6661272, 9 pages, 2021.
[15] G. Fortino, W. Russo, C. Savaglio, W. Shen, and M. Zhou, "Agent-oriented cooperative smart objects: from IoT system design to implementation," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, vol. 48, no. 11, pp. 1939–1956, 2018.
[16] S. D. M. Achanta, T. Karthikeyan, and K. R. Vinoth, "A wireless IOT system towards gait detection technique using FSR sensor and wearable IOT devices," *International journal of intelligent unmanned systems*, vol. 8, no. 1, pp. 43–54, 2019.
[17] J. Liu, J. Liu, L. Fan, L. Yi, H. Song, and Q. Zeng, "Intelligent building load scheduling based on multi-objective multi-verse algorithm," *Energy and Power Engineering*, vol. 13, no. 04, pp. 19–29, 2021.
[18] Z. Meng, Z. Wu, C. Muvianto, and J. Gray, "A data-oriented M2M messaging mechanism for industrial IoT applications," *IEEE Internet of Things Journal*, vol. 4, no. 1, pp. 236–246, 2017.
[19] P. Schulz, M. Matthe, H. Klessig et al., "Latency critical IoT applications in 5G: perspective on the design of radio interface and network architecture," *IEEE Communications Magazine*, vol. 55, no. 2, pp. 70–78, 2017.
[20] M. Zheng, J. J. Sherba, J. W. Shan, H. Lin, D. I. Shreiber, and J. D. Zahn, "Continuous-flow, electrically-triggered, single cell-level electroporation," *Technology*, vol. 05, no. 01, pp. 31–41, 2017.
[21] C. D'Ambrosio, A. Iossa, F. Laureana, and F. Palmieri, "A genetic approach for the maximum network lifetime problem with additional operating time slot constraints," *Soft Computing*, vol. 24, no. 19, pp. 14735–14741, 2020.