Research Article

Influence of Digital Information Management on the Audit Path of Financial Special Poverty Alleviation Funds

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Received 15 June 2022; Revised 11 July 2022; Accepted 19 July 2022; Published 8 August 2022

Academic Editor: Raghavan Dhanasekaran

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In order to fully implement the Party’s tough fight against poverty, conscientiously implement the policy of targeted poverty alleviation, and accelerate the development of the socialist market economy and the national economy, it is particularly important to strengthen digital information management in the audit of special fiscal poverty alleviation funds. With the continuous advancement of science and technology, the informatization of audit work has become an inevitable trend. However, in the past audit work of special financial funds, it was found that there were a series of problems such as imperfect audit system, weakened audit work, poor audit projects, imperfect supporting facilities, inadequate poverty alleviation funds, slow project progress, and failure to timely check the completion of projects. In order to better realize the timeliness and practicability of audit information of special fiscal poverty alleviation funds and solve the loopholes and deficiencies found in the past, based on the original digital information submanagement system, this paper adopts the J2EE system framework, MVC mode, and B/S security detection system to build a more stable, efficient, and secure financial special poverty alleviation fund management system. After a series of tests, under the premise of effective use of poverty alleviation funds, the system data show that, from 2012 to 2018, the per capita disposable income of residents in poverty-stricken areas in China increased by 12.1% in nominal terms, an increase of 8.9% compared with 2012, and the gap between the national rural averages has narrowed again.

1. Introduction

With the rapid growth of the social economy and the increase of the country’s fiscal revenue, the state’s investment in special poverty alleviation funds has also increased. It is particularly important to vigorously develop people’s livelihood and handle poverty alleviation problems. However, many problems have also been exposed in the audit of poverty alleviation funds. Low work efficiency and irregular fund management and use have greatly restricted the audit of special poverty alleviation funds. As a result, poverty alleviation resources do not play their best role. There are various types of poverty alleviation funds, which are finally distributed to poor households through layer-by-layer allocation. If the previous manual audit is still used, it is time-consuming and labor-intensive, and the overall situation is not fully grasped. As a tool for information processing and transmission, digital information management has the functions of collection, transmission, storage, maintenance, and use and can carry out detailed information input and business input to complete the management of poverty alleviation funds. All kinds of information related to poverty alleviation are collected through computers and mobile phones, so as to improve the efficiency of poverty alleviation audit work.

The construction of digital information management system using J2EE system framework, MVC mode, and B/S security detection is more stable, efficient, and secure. Its supporting facilities are more complete. While ensuring the practicability of the system, it can maximize the poverty alleviation service work. The B/S mode is adopted in the system, and the technology for finding related problems is more advanced than before, which further improves the
stability and security of the system, simplifies the audit work, and improves the efficiency of project work.

The digitization of information management has transformed the archives sector in a short period of time and has had a major impact on the information flow within government organizations. Gier looked at the governance of information processes from a business information technology (IT) adjustment-driven perspective, based on case studies conducted within two Dutch cities. His research showed that mature IT governance can have a positive impact on digital document information management because it leads to “desirable behavior of people when using IT.” The findings also relate to joint business and IT strategy development, primarily involving IT participation in decision-making. Finally, the findings concern the positioning of decision-making power and whether staff is aware of this [1]. Strychnyk conducted research to determine data access restrictions for digital systems used for organizational development and surveyed users’ attitudes towards the processing of personal data through artificial intelligence. Research on this topic is divided into three logical stages. The first phase provided analysis of scientific publications. He explored how and under what aspects and conditions the digital systems that organizations develop rely on information security and data protection. The results of the trial show that scientists and practitioners can directly use these findings for further application in the development of digital systems for organizational development [2]. Béland proposed a more general multilevel description to explore complex privacy decisions involving jointly owned information in an increasingly complex digital environment. The concepts of group and personal information privacy, “our privacy” and “my privacy,” respectively, are defined as the ability of an individual or group to construct, police, and apply the rules governing their information and interactions with others. A theory of multilevel information privacy (TMIP) is developed to explain how individuals or groups (i.e., social units) or social units that are members of a particular group make privacy decisions by drawing on well-known social psychological theories about group behavior, which contributes to the privacy literature [3]. Results show that technology complicates privacy decision-making by adding unique environmental features. These characteristics may influence the social identity assumed for a particular privacy decision, the estimation of the cost-benefit components of the privacy calculus, and the application and evolution of norms that define rules for information and interaction management [4].

In recent years, in response to national policies, provinces have actively carried out targeted poverty alleviation work, but the effect of targeted poverty alleviation has not been satisfactory. Taking Fuyang City as the research object, Zhou and Ye first analyzed the current situation of targeted poverty alleviation in Fuyang City from the aspects of target management mechanism, industrial poverty alleviation, infrastructure construction, land transfer poverty alleviation and relocation projects, and social security policies. Then, they analyzed the current difficulties faced by Fuyang’s targeted poverty alleviation, such as the single source of poverty alleviation funds, the improper allocation of poverty alleviation resources, the lack of talent in the poverty alleviation team, the overemphasis on the form of poverty alleviation work, and the insufficient publicity of poverty alleviation policies. Finally, they put forward countermeasures and suggestions for Fuyang City’s targeted poverty alleviation [5]. Taking the rural antipoverty governance policy in India as an example, Wang et al. focused on revealing and summarizing India’s typical experience and advantages in poverty governance through literature comparison. The study found that the antipoverty governance in rural India has formed a network model based on agriculture, capital, social subject participation, professional poverty alleviation institutions, and legislative guarantees. These typical experiences have certain experience enlightenment and knowledge accumulation for rural antipoverty governance in developing countries around the world [6].

MVC design pattern is a design pattern commonly used in digital information system components. Sathyarajasekaran focused on change impact analysis in MVC pattern type projects and on the impact of overcoming the changes in this project to fully generate model components and partially generate view components and stick to the traditional flow on controller components. In a model-view control system, all model classes can be generated using automated tools [7]. Each model class is directly related to a table in the backend, and the operations performed in the model class are limited to create, read, update, and delete processes (also known as CRUD). The proposed method is evaluated by considering three items of varying complexity. Mathematical and graphical representations of the efficiencies achieved by our method compared to conventional methods are evident [8]. Through investigation, Ramírez-Noriega et al. proposed a computer-aided software engineering tool called inDev that can interact with the system by visualizing the changes in the output produced by the input in the ER diagram as an MVC architecture. To test the scope of the project as a teaching strategy, they designed an experiment consisting of a control group and an experimental group. The experimental group that used the inDev app learned better than the control group that did not use the app. The inDev tool has proven to be a useful educational tool for dealing with topics such as the MVC design pattern [9]. The above references are more detailed on digital information management, special poverty alleviation, and MVC model, which brings about some inspiration to the following elaboration.

This paper adopts the J2EE system framework, MVC mode, and B/S security detection system to build a more stable, efficient, and secure financial special poverty alleviation fund management system. Among them, the algorithm for the extraction of information features by the system is discussed in depth, to solve the problems in the original audit management and to effectively improve the efficiency of the audit work of the national financial special poverty alleviation funds.
2. Method for Establishing a Digital Information Management System for Auditing Special Fiscal Poverty Alleviation Funds

Digital information system is a man-machine system that combines computer and modern communication technology to process information transmission and provide convenient and effective information services for management decision-making [10]. With the continuous development of the Internet, computer functions have been enhanced and the scope of application has become wider and wider, and the digital information system industry with convenient information processing and complete functions is developing towards high level and popularization.

2.1. Digital Information Management System

2.1.1. Software Architecture. Software architecture is the structure of a system that contains software and components with interrelationships between their external and visual features [11]. For small-scale application software, no matter what system structure is used, the expected requirements can be met. However, for large-scale application systems, the system structure can play a key role. It will not only affect the progress of system design and development but may also directly affect the subsequent development potential of the system and even determine the success or failure of the system. The process-centric definition is the structure of the components in programs and systems, including their interrelationships and principles and guidelines that govern the design and evolution of time. According to the different user interface, the general application structure is divided into single-layer, two-layer, three-layer, and multilayer structure. With the changes of the times and the advancement of science and technology, the move from single-layer structure to multilayer structure is an inevitable trend. Here the digital information management system uses a three-layer or multilayer structure to form the data service layer. In the three-layer or multilayer structure, the business logic is extracted separately to form one or more layers in the middle, forming a real distributed application system. A three-tier architecture diagram of the system is shown in Figure 1.

The data access layer is mainly composed of table definitions, table relationships, and data items, which also includes data codes that can be used in the system and can also be used [12]. Its main function is to implement business logic, and it can migrate database information to other database servers [13]. The main function of the business logic layer is to carry out logical judgment and execution of follow-up commands and specific problems and to separate complex business. The business logic layer is mainly linked to the third layer for data transmission and command transmission, and the results are transferred to the third layer. The presentation layer is the user-oriented client terminal, which combines everything in the web page, and is a command symbol and an interface that provides users with information and various operation options.

The advantages of the multilayer structure are as follows: First, high aggregation and low coupling can efficiently complete tasks and ensure normal business processing. Second, the multilayer structure is more flexible than the single-layer structure, and it can cooperate with a high-configured computer to complete the tasks of the logic layer with a large amount of data and high difficulty, and it is relatively independent. As long as the interfaces are not connected to each other, changes in the previous layer will not affect other layers, effectively reducing dependencies between layers. With high security and few data entries, users can only do specific things through specific services and cannot call data access layers across the logic layer, which can reduce network security incidents [14]. The multilayer application structure requires that there must be a clear interface definition between the layers. In a well-designed three-layer or multilayer structure, the communication between the layers is through a common interface. This ensures that multiple layers can cooperate to complete application tasks.

2.1.2. J2EE System Framework. The J2EE system is a distributed application model developed in the context of Java [15]. The original intention of J2EE design is to solve the drawbacks of the two-tier model. After a series of upgrades and segmentation, the two-layer model is divided into an independent layer at different levels to form a suitable four-layer structure, as shown in Figure 2, which is a typical four-layer structure of J2EE. It includes client layer components, running web layer components, logic layer, and EIS server enterprise information system.
2.1.3. **MVC Design Pattern.** MVC is a design pattern for input, processing, and output of application programs, which realizes the functional division of various layers within the system [16]. It can handle many different views for your application, and the code applied to the model only needs to be written once and can be reused by multiple views, so code duplication is reduced. Among them, the model, view, and controller are the core components of the MVC pattern, and they complete tasks independently. The model is used for the analysis work of the business logic layer. The view plays the primary role in the interaction. The role of the controller is to connect the model and the view, display the view content, and interpret and map model operations. Figure 3 shows the framework content of the MVC model. The mapping file contains the metadata required for object/relational mapping. Metadata contains persistent class declarations and property-to-database mappings to foreign key associations to fields and other entities.

The advantages of MVC are as follows: First, it has the characteristic of low coupling. The view layer and the business layer are separated to achieve freedom of access within the system, and different views can be used to access the code of the same server terminal [17]. It includes any WEB (HTTP) browser or wireless browser (WAP). Second, it has the characteristic of high applicability. Third, the life cycle is short and the cost is low. Fourth, it is maintainable and deployable.

### 2.2. Design of the Digital Information Management System.

The struts framework based on MVC pattern and J2EE system are combined to realize the design of this system [18]. The struts framework is a basic framework in the MVC pattern. Its biggest feature is that it can hand over all business process control to the configuration file. When faced with a system with huge data, this framework combined with Hibernate can reduce the coupling of the system, increase the stability of the system, and add a layer of barrier between the business logic and the page [19]. It is responsible for the mapping between objects and relational data and is a bridge between applications and relational databases, avoiding the way developers use a lot of statements to operate the database. It can provide flexible business logic and reduce the workload of operating the database. It combines the information management system of struts and Hibernate architecture and conforms to the multilayer architecture. The design model of the system is shown in Figure 4.

In the traditional mode, the client plays too many roles and becomes bloated. In this model, it is easier to deploy for the first time but difficult to upgrade or improve, and the scalability is not ideal and is often based on some proprietary protocol, usually some kind of database protocol, which makes reusing business logic and interface logic very difficult. With the continuous improvement of scientific and technological means, the current requirements for information management systems are becoming more and more strict and complex, and customers' requirements for the stability and security of the system continue to increase. In order to meet this series of requirements, by improving the system and improving system performance, the system is logically designed in layers, a stable database is established, and human-computer interaction is realized, information processing is fast, and feedback is also fast [20]. As shown in Figure 5, according to the five-layer architecture in the multilayer structure of J2EE, the financial poverty alleviation fund information management system is established using the MVC model.

Establishing the financial special poverty alleviation audit business process can improve the efficiency of fund auditing. Figure 6 shows the business flow figure of the poverty alleviation project of the financial poverty alleviation fund monitoring system.
**Figure 3:** MVC model framework diagram.

**Figure 4:** System design model.
Figure 5: Five-layer structure diagram.

Figure 6: Business flow figure of poverty alleviation projects of the financial poverty alleviation fund monitoring system.
2.3. B/S Security Detection System

2.3.1. Feature Extraction Algorithm. The B/S security detection function is mainly to determine whether there are loopholes in the internal website of the system to be tested. This system uses the feature information extraction algorithm to detect the security performance of the system [21]. According to the structural characteristics of the HTTP message itself, since most of the nonsecurity factors are not hidden in the message information, the feature extraction algorithm can automatically filter the dissimilar individual characters in the message. Instead, it focuses on extracting harmful structures with high similarity. The following are the steps of the nonsecurity factor feature extraction method.

Step 1. First, the system will conduct statistics on nonsecure sample information and then perform dimensionless normalization processing according to the request of nonsecure information samples to obtain a relatively comprehensive sample database and obtain the weight M of various sample attributes in the attribute library through the following formula:

\[ y(\text{pro}) = \log\left(\frac{\beta}{\beta + \alpha}\right). \]  

In the above formula, “pro” represents the attributes of various samples divided by the system; \( \beta \) represents the number of occurrences of similar nonsecurity factors; \( \alpha \) represents the number of occurrences of other nonsecurity factors.

Step 2. According to the above formula, the affinity of \( H^j \) can be calculated as \( ayyH^j \); \( H^j \) represents the jth request sequence of the ith class, and the following formula is obtained:

\[ y_{yy}(H^j) = \sum_{H^j \in F, H^j \neq H}^{H} \cos(H^j, H^j) = \frac{\log\left(DF(H^j)\right)}{\log\left(|W_i|\right)}. \]  

In the above formula, \( H^j \) and \( H \) represent samples of the same category, but they are in different sequences, and \( y_{\text{pen}}(H^j) \) represents a penalty function, which is used to reduce the system error rate. If the same sample appears in multiple feature libraries at the same time, a penalty function is used to reduce the affinity of this sample sequence, and the decrease in affinity means that the probability of the sample information being an unsafe sample increases [22].

Step 3. If \( ayyH^j \geq \delta \), then this information feature is added to the feature library \( W_i \); if the condition of \( ayyH^j \geq \delta \) cannot be satisfied, this feature information is added to the uncertain attribute library \( W_{\text{unknown}} \). The loop judgment condition in the system starts to run, and the establishment of \( ayyH^j \geq \delta \) conditions is regarded as a normal information feature. If it is not established, it means that this feature is an aggressive behavior, of which \( \delta \) refers to the affinity threshold.

Categorizing textual information according to the frequency of feature texts in the system is the least complex feature extraction method. The relative frequency of the feature sample \( y \) in the attribute database \( W \) is calculated, and the correlation can be expressed as follows:

\[ DF(y, W_j) = \frac{\log\left(|W_j|\right)}{\log\left(\text{DF}(y)\right)} \]  

DF \( y \) represents the number of occurrences of \( y \) samples in the attribute library, and \( |W_j| \) refers to the total number of samples in the entire attribute library.

Mutual information is used to represent the correlation and independence of feature samples and categories. The mutual information algorithm overcomes the defect of not selecting rare feature words for document frequency and has greatly improved the classification accuracy. The formula for mutual information is as follows:

\[ \text{MI}(y, W_j) = \log\frac{p(y|W_j)}{p(y)}. \]  

\( \chi^2 \) statistical methods are also commonly used in the process of feature extraction to detect whether there is a correlation between two things [23]. Suppose that \( E \) is the number of feature samples contained in the category attribute library \( W \), and \( F \) represents the number of feature samples that appear in other attribute libraries but do not appear in the \( W \) attribute library. \( G \) represents the number of feature samples that are not included in the \( W \) attribute library, \( H \) represents the number of feature samples that are not included in other category attribute libraries except the \( W \) attribute library, and \( X \) represents the total number of samples [24]. According to the null hypothesis, if a feature sample \( y \) is independent of the category attribute library, then the probability of the feature sample \( y \) appearing in each category attribute library is equal, and the formula expression is

\[ p(y) = \frac{E + F}{X}. \]  

When the total number of feature samples in the attribute library is \( E + G \), theoretically the number of feature samples \( y \) in the attribute library \( W_j \) is

\[ R_{11} = (E + G) \times p(y). \]  

The relative deviation value is obtained by squaring the difference between the theoretical value and the actual value \( E \):

\[ G_{11} = \frac{(E - R_{11})^2}{R_{11}}. \]  

The final system score is obtained by summing the above deviation value with the actual deviation value. The formula is

\[ \chi^2(y, W_j) = G_{11} + G_{12} + G_{21} + G_{22}. \]  

In summary, the following can be got:
It can be seen from this that $E$, $F$, $G$, and $H$ are all constants. When the deviation between $EH$ and $GH$ reaches a large absolute value, the score given by the system is also larger, indicating that the correlation between the feature sample $y$ and the category attribute library is large. When the difference between $EH$ and $FG$ is equal to zero, the feature sample $y$ and the category attribute library are in a completely independent state. Therefore, it can be seen that $\chi^2$ is a feature extraction algorithm with good performance. It only counts whether there is a feature sample $y$ in the document but does not consider the number of times word $y$ appears in the attribute database, so that some feature samples that frequently appear in a few attribute databases and have a large contribution to classification and recognition are missed, thereby reducing the classification performance.

Gain information is a method of feature extraction based on entropy as an evaluation condition and is often used in data mining and machine learning fields. When the gain information is used for feature extraction, it is used to measure the amount of information provided by the presence or absence of the feature sample $y$ for classification and recognition. Entropy indicates whether the distribution of feature samples in the attribute library is uniform and orderly. In the attribute database, the more uneven, disordered, and uncertain the distribution of feature samples, the greater the value of entropy and the greater the amount of information that feature information refers to in the sequence. Assuming that there are $k$ variables in the attribute library, the information definition of $k_i$ is

$$I(k_i) = - \log_2 p(k_i).$$

(10)

The calculation of the expected value formula is

$$F(k) = - \sum_{i=1}^{n} p(k_i) \log_2 p(k_i).$$

(11)

When the value of the feature sample $y$ ($y = Y$) in the attribute library is determined, the information entropy calculation formula of the variable $k$ is

$$F'(k) = - \sum_{i} p(k_i|y = Y) \log_2 p(k_i|y = Y).$$

(12)

People can know that the gain information is the difference in the information entropy of the variable before and after the eigenvalue, and its calculation formula is

$$IG(y, k) = F(k) - F'(k).$$

(13)

In the feature extraction stage, the information gain refers to the difference in the information entropy before and after a feature sample $y$ is selected, compared with the situation when it does not appear. The calculation formula is as follows:

$$\chi^2 (y, W_i) = \frac{X \times (EH - GF)^2}{(E + G)(F + H)(E + F)(G + H)}$$

(9)

The information gain score of each feature word is calculated, and the features with higher scores are extracted to form a feature information vector space. The above is the calculation method of the hazard characteristic information of the presence or absence in the system in the B/S security detection system.

2.3.2. B/S Network Model. The application program of the B/S network model in the web system mainly includes HTML files, script files, and some resource files [25]. HTML files are the most commonly used web page files, providing static web page content for the system website, while script files provide dynamic web page services. Resource files mainly refer to files that can be extracted or read, including figures, audio, and multimedia files.

The B/S network model is mainly composed of three parts: client browser, web server, and database. The main functions provided by the browser are the following: apply for services to the designated web server (website); download the HTML (HTM) file applied for from the server; parse and display the content of the file or interact with the server through the script on the file. The main functions of the web server are to store web applications and to receive services requested by users and to respond. If the script needs to access the database, the SQL statement is sent to the database server, and the query results are received. The main function of the database server is to store data and can provide data to the script file to call and modify. In the B/S network model, each component is coordinated and connected to each other and cooperates to complete transmission and communication tasks. The communication process between the client and the web server in the B/S network model is shown in Figure 7.

There is a port 80 specially opened for HTTP in the computer system, which is mainly used as a protocol for transmitting information on the World Wide Web [26]. Each server process in the system has a port listening on the TPC to connect. Once it finds that there is characteristic information to initiate a connection request, the server will respond to the connection. When the connection is established, the browser requests to browse the web page, and the server will respond and return the web page information requested by the browser. Figure 8 shows a schematic diagram of the structure of web vulnerability detection.
3. Influence Experiment of Digital Information Management in the Audit Path of Financial Special Poverty Alleviation Funds

3.1. Impact of Digital Information Management System Design on the Audit Path of Special Fiscal Poverty Alleviation Funds

Since the 18th National Congress of the Communist Party of China, the Party Central Committee has attached great importance to poverty alleviation, and the country has further promoted poverty alleviation. With the passage of time and the investment of national poverty alleviation funds, major achievements have been made in the national poverty alleviation work. Figure 9 shows the decline ratio of the poor population and the incidence of poverty in China from 2011 to 2016.

According to the released data, in 2014, there were 10 provinces with a poverty incidence rate of over 10% in China, indicating that the battle against poverty is still in a sprint, the difficulty of poverty alleviation is increasing, and the task is arduous. However, the incidence of poverty is decreasing year by year, and the proportion of poor people is also decreasing year by year under the policy of targeted poverty alleviation. Therefore, although poverty alleviation is difficult, it is very feasible and effective. Table 1 shows the poverty-related information in China in 2012 and 2018.

According to the table, in 2012, there were 98.99 million rural poor people in China, 128000 registered poverty-stricken villages, and 832 poverty-stricken counties nationwide. The poverty-stricken population has decreased by 82.39 million, and the poverty incidence rate has dropped from 10.2% to 1.7%. During the period, the number of registered poverty-stricken villages has decreased by 100,000, which shows that the poverty alleviation has achieved remarkable results.

This paper takes Yongchang County as the audit object of special financial poverty alleviation funds and cooperates with the digital information system to conduct an audit investigation of poverty alleviation funds in 21 villages and 55 farmers in 7 townships. Figure 10 shows a map of Yongchang County’s fiscal revenue and poverty alleviation fund expenditure in 2017.

It can be seen from the figure that, in 2017, Yongchang County’s fiscal revenue reached 2,914.91 million yuan, and the general public budget expenditure was 2,502.64 million yuan, of which poverty alleviation expenditure was 48.94 million yuan, accounting for 1.96% of the budget expenditure. However, during the audit process, it was found that there were many problems such as insufficient expenditure of poverty alleviation funds, untimely receipt of funds, slow progress, repeated projects from multiple parties, and untimely project completion and acceptance.

Combined with the informatization of the information management system, first of all, the various functions of the system are run and tested. In the Struts framework, the Action part and Servlet have the same function, and both can process HTTP file requests. But usually the system will use the struts-config.xml file for request processing and map the request to the Action system. The main reason why the system prefers the Action system is as follows: The Action system is more convenient, and the logic process is placed in a file, which is easy to view and understand. It is straightforward and does not require looking at other codes to understand. Even if the process is changed, the code does not need to be recompiled. In the audit module of financial special poverty alleviation funds, the control layer includes four parts: Acton, ActionForm, Entrance, and Export [27]. Table 2 shows the Action mapping table of the poverty alleviation fund management module.
In the digital information management system, project declaration, project audit, project approval, and project result input are optimized according to the business operations in the Action object. The project capital expenditure and the amount of project investment are clarified, and auditors are reminded to carry out project acceptance. The input of system funds and performance audit evaluation is strengthened, and the efficiency of the allocation of national financial resources is improved.

Boundary value analysis tests system input and output boundaries for errors or dangerous information. Usually the boundaries of the input and output equivalence classes are the boundary cases that should be tested. Values that are exactly equal to just above or just below the boundary should be chosen as test data, not typical or arbitrary values in the equivalence class. Testing includes four stages: unit testing, integration testing, confirmation testing, and system testing. Boundary testing is an important means to ensure the audit quality of poverty alleviation funds. Table 3 is a functional test table of digital information management system.

It has been confirmed by system testing that the system can effectively add, modify, delete, and store various types of information. It is more convenient to inquire about the allocation, as well as in inbound and outbound information of various funds; the system has a higher fault tolerance rate and a more complete execution function. The network domain is broad, covering the country’s poverty alleviation information, the poverty alleviation project information channel is perfect, the poverty alleviation fund audit is in an orderly manner, and the supervision is strengthened. The stability, security, and fault tolerance of the system are good. The system is mainly based on the B/S structure, and the application server is a very important core server of the system. The application server is the least stable part of the whole system. Therefore, the stability of the application server is fully considered in the deployment, the application server and the database server are physically separated, and the multimachine cluster is used in the city to achieve load balancing and fault tolerance of multiple application servers. After the optimization of the management system, the poverty alleviation information system of Yongchang County was input into the digital information management system. In 2018, the poverty alleviation effect of Yongchang County was significantly improved. Data show that, from 2012 to 2018, the per capita disposable income of residents in poverty-stricken areas in China increased by 12.1% in nominal terms, an increase of 8.9% compared with 2012, and the gap with the national rural average has narrowed a step further.

3.2. B/S Security Detection System Test. The system adopts B/S mode for development and design and adopts advanced mainstream development tools, so it has strong stability and security in operation and use. Vulnerability testing of the existing digital information management system is to check the security and stability of the system. First a client environment and server environment are built, the configuration of the system under test is modified, and finally the data shown in Table 4 are obtained. In the data, the former data represents the test result of this system, and the latter data represents the result measured by another system. From the test data, the XSS vulnerability test height is relatively good, reaching 13/13, and the effect is more obvious. Judging from the data of the other two groups, the vulnerability scanning system still has a certain rate of false negatives and false positives, but it is similar to the results obtained by another software. The results show that the system still achieves the expected detection function. It can effectively solve problems such as loopholes in the digital information management system, improve the work efficiency of the audit of special fiscal poverty alleviation funds, and provide security for the audit environment of fiscal special poverty alleviation funds.

4. Discussion

Through the discussion of the audit path of the national financial special poverty alleviation funds, this paper builds a more secure and effective digital information management system according to the problems found. It tests the system by boundary method and B/S security detection system and determines the security, stability, and fault tolerance of the system through tests. It proves the effectiveness of the digital
Table 3: Digital information management system functional test table.

| Action                  | Entrance          | ActionForm          | Export             |
|-------------------------|-------------------|---------------------|--------------------|
| budgetManageAction      | Menu.jsp          | budgetManageForm    | budgetManage.jsp    |
| budgetModifyAction      | budgetModify.jsp  | budgetManageForm    | budgetModify.jsp    |
| budgetViewAction        | budgetView.jsp    | budgetView.jsp      | Manage.jsp          |
| Budgetallocation        | Budgetappropriated| ManageForm          | Budgetaccount      |
| ManageAction            | Query.jsp         | Budgetaccount      | Manage.jsp          |
| Budgetaccount           | Menu.jsp          | ManageForm          | Manage.jsp          |

Table 2: Action mapping table of the poverty alleviation fund management module.

| Action                  | Entrance          | ActionForm          | Export             |
|-------------------------|-------------------|---------------------|--------------------|
| budgetManageAction      | Menu.jsp          | budgetManageForm    | budgetManage.jsp    |
| budgetModifyAction      | budgetModify.jsp  | budgetManageForm    | budgetModify.jsp    |
| budgetViewAction        | budgetView.jsp    | budgetView.jsp      | Manage.jsp          |
| Budgetallocation        | Budgetappropriated| ManageForm          | Budgetaccount      |
| ManageAction            | Query.jsp         | ManageForm          | Manage.jsp          |
| Budgetaccount           | Menu.jsp          | ManageForm          | Manage.jsp          |

Figure 10: Fiscal revenue and expenditure of poverty alleviation funds in Yongchang County in 2017.

Table 3: Digital information management system functional test table.

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|---|---|
| **Table 3: Digital information management system functional test table.** |  |
| **Action** | **Entrance** | **ActionForm** | **Export** |
| Project information card | Use various to test the test cases | Addition, modification, deletion, and storage of test item information | Pass the test |
| Project bidding form | Use various to test the test cases | Addition, modification, deletion, and storage of bidding information of test project | Pass the test |
| Project bidding form | Use various to test the test cases | Addition, modification, deletion, and storage of test contract information | Pass the test |
| Project acceptance form | Use various to test the test cases | Addition, modification, deletion, and storage of test completion project information | Pass the test |
| Index allocation table | Use various to test the test cases | Test the increase, modification, deletion, and storage of poverty alleviation fund allocation | Pass the test |
| Fund appropriation form | Use various to test the test cases | Test the correct allocation of business operation permissions, such as changing passwords | Pass the test |
| Reimbursement form | Use various to test the test cases | Check the relevance between the information added, modified, deleted, approved, and stored other information | Pass the test |
| Statistical query | Use various to test the test cases | Test the multicondition joint query, statistics, and print preview functions of project information and fund information | Pass the test |
| Information collection and maintenance | Use various to test the test cases | Input, modification, deletion, approval, and release of public information required for testing | Pass the test |
information management system based on the J2EE system framework, MVC model, and B/S security detection for auditing special financial poverty alleviation funds. This system can improve the audit system, improve audit ability, reduce audit workload, and manage projects effectively.

5. Conclusions

This paper focuses on the impact of the digital information management system on the audit path of the financial special poverty alleviation funds. The article first talks about the basic composition of the digital information management system, so that people have a preliminary understanding of the digital information management system. It talks about the J2EE system framework and the MVC design pattern. Then the design of the digital information management system is described in detail, and finally the safety and stability of the system are discussed. It is found that B/S security detection plays a significant role in improving the security of the system. Although some new composition structures are proposed, the security fault tolerance and false positive rate of the system still need to be improved.

Data Availability

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

Conflicts of Interest

The author declares no conflicts of interest with respect to the research, authorship, and/or publication of this article.

Acknowledgments

This work was supported by National Social Science Foundation Key Project “Research on the Influence and Optimization Path of Fiscal and Taxation Policies on Chinese Enterprises’ Technological Innovation under the Dilemma of Resource Misallocation” (Project Approval no. 19AJY024).

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