Big Data Technology of Precision Poverty Alleviation Tracking Audit System under the Internet

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Abstract. As our country’s poverty alleviation has entered a decisive moment, it has become an urgent task to count the poor. Based on the Internet perspective, this article combs the basic theories and related overviews of the precision poverty alleviation policy, and on this basis, carries out the follow-up audit evaluation system construction; In order to improve the audit effect, this paper uses big data technology, case analysis method, literature analysis method and other methods to collect data from databases such as CNKI, Wanfang database, SSCI, etc., build a tracking audit system model, and pass The literature survey method reads and analyzes a large number of related literature. The study found that through the introduction of big data calculations, the tracking audit effect has been improved, the accuracy has increased by 30%, and the classification and tracking of the poor have been greatly improved. The index is above 0.8, an increase of about 40%. This shows that under the follow-up audit of precision poverty alleviation, big data technology can play an important role and greatly improve poverty alleviation work.

Keywords: Internet Vision, Precision Poverty Alleviation, Follow-up Audit, Big Data Technology

1. Introduction
With the development of time, the targeted poverty alleviation policy system has been developed and improved, and the effect of poverty alleviation work has been remarkable. However, there are also problems such as policy implementation deviations in the implementation of the policy, which affects the implementation effect of the targeted poverty alleviation policy to a certain extent [1]. In order to ensure the implementation of the targeted poverty alleviation policy, this paper proposes a follow-up audit of the poverty alleviation policy based on the Internet perspective selection, focusing on reviewing the implementation of public entrusted economic responsibilities, the implementation of poverty alleviation projects, and the management and use of poverty alleviation funds [2]. However, the development time of follow-up audit in my country is relatively short, and there is no follow-up audit evaluation system for the whole process of policy implementation, which is not conducive to the development of follow-up audit and evaluation work. Therefore, research on the follow-up audit
evaluation of precision poverty alleviation policies has important theoretical and practical significance [3].

Nowadays, big data has involved many fields such as medical treatment, agriculture, geological survey, astronomy and Internet of Things, and even has developed into news and e-government fields. The huge value contained in massive data brings new development opportunities for every field. In the audit evaluation of policy implementation, foreign countries have introduced a risk-oriented model and used it in pre-audit and post-audit follow-up audits [4]. Through the risk rating, the audited object is selected, and the implementation effect of the audit project is evaluated with the five-point evaluation model. However, my country does not have a complete system for the follow-up audit of policy implementation. At present, it is still facing a series of problems such as insufficient audit power and difficulty in audit operations. In response to these current situations, scholars have proposed different aspects from basic theory, audit scope, and audit procedures. The solution [5].

WangYue believes that at the critical moment of poverty alleviation, targeted poverty alleviation can effectively improve people's living standards, and propose relevant solutions to the causes of poverty, cutting off the roots of poverty from the source, and in order to ensure the effect of targeted poverty alleviation, follow-up auditing is Very effective means, but China's follow-up audit started late. In order to conduct effective audits, it proposes to have a set of evaluation standards and methods that can cover the entire audit process [6]; JiaXuewei analyzes the current problems facing China’s targeted poverty alleviation, In order to improve the relevant audit work, it proposes to intervene in the follow-up audit throughout the entire process, to intervene in the three major modes at appropriate time, to supervise the resource allocation and capital use in the audit, and to exert the joint efforts of all departments to fight poverty. Really implement poverty alleviation policies and give full play to the role of follow-up auditing [7]; HaoLinghe took the poverty alleviation audit in a certain area of Gansu as an example, introduced a big data management platform, and tracked poverty through big data, effectively guaranteeing targeted poverty alleviation work It also puts forward relevant countermeasures for the problems in the application of the big data platform. The big data platform provides effective safeguards for the follow-up audit work, and its improvement methods also provide a reference for subsequent practice [8]. These studies have certain reference value for this article, but due to the narrow data cited in the study, the data industry is basically limited to individual industries and has no universal effect in practice.

This paper defines the big data system, proposes the structure model of the big data ecosystem, and analyzes its constituent elements in detail, which opens up a new theoretical perspective for deep chemists' knowledge and understanding of the big data industry. Second, from the perspective of precision poverty alleviation follow-up audit, the governance mechanism of the big data ecosystem is discussed, and three governance mechanisms are proposed, namely, a restraint mechanism, an incentive mechanism and a coordination and integration mechanism, which further expands the governance research of big data systems. Thirdly, based on the big data ecosystem structure model and governance model, it conducts an in-depth analysis of the current situation of my country's precision poverty alleviation, and puts forward relevant countermeasures and suggestions based on the analysis conclusion.

2. Application Method of Big Data Technology in Precision Poverty Alleviation Tracking Audit System

As a new audit method, follow-up audit is the state auditing agency and auditors in accordance with laws, regulations and auditing standards, taking the responsibility performance process of the trustee as the audit object, dividing the audit stage according to the key event nodes of the audit object, and starting from Authenticity, legitimacy and effectiveness are an act of continuous supervision of audited matters [9]. The follow-up audit can effectively use limited funds and resources, achieve the expected goals with the smallest possible cost, and enable the project to give full play to the expected functions.
The development of the big data industry is closely related to big data technology and its application. Although it originated from industry practice, academic research on the "big data industry" lags far behind the development of practice [10]. From a domestic perspective, the current research on the big data industry mainly focuses on government industrial policies and plans, industrial development suggestions, comparisons of domestic and foreign big data industries, and industrial development influencing factors. There is a lack of appropriate theoretical perspectives on the internal big data industry. Research on the constituent elements and governance mechanisms; from a foreign perspective, although there are not many related studies, scholars have begun to discuss the big data industry from the perspective of business ecology.

The big data ecosystem is divided into three levels, namely the core value chain at the micro level, the extended value chain at the meso level, and the big data ecosystem at the macro level. Among them, the core value chain is centered on the data value chain, including direct data suppliers and data value distribution channels; the extended value chain is centered on the core value chain, consisting of technology providers, data markets, data supplier suppliers, and complementary data products. And service providers, direct data end users, etc.; while the macro-level big data ecosystem mainly refers to some related organizations in the periphery of the system, such as government agencies, regulatory agencies, investors, venture capital & incubators, industry associations, Academic and research institutions, standardization organizations, start-ups and entrepreneur groups, as well as various other competitors, stakeholders, peripheral members, etc.[11]. The calculation method is as follows:

\[
Q = \frac{1}{2a^2r^{-1}} \left( \frac{2b^2}{a^2r^{-1}} t - L \right)^{-1} \left[ a^2r^{-1} L^2 + 2(1-a^2)L \right]
\] (1)

\[
\left( \frac{2b^2}{a^2r^{-1}} I_x - t \right) Q = \frac{1}{2} t^2 + \frac{1-b^2}{a^2r^{-1}} t
\] (2)

\[
Q^2 + \frac{2(1+b^2)}{a^2r^{-1}} Q + \frac{(1+b^2)^2}{a^2r^{-1} I_x} I_x = \left( Q + t + \frac{1-b^2}{a^2r^{-1} I_x} \right)^2
\] (3)

3. Big Data Technology Experiment of Precision Poverty Alleviation Tracking Audit System

3.1. Experimental Purpose

This article is based on the theoretical results of Internet vision and big data research, draws on the theoretical research results of big data integration at home and abroad, and uses literature, comparative research, mathematical statistics, logical analysis and other methods to conduct research from applications such as big data integration and smart cities. In-depth analysis, study its application methods and characteristics.

3.2. Experimental Evaluation Standards

The evaluation index is a specific evaluation item determined according to some evaluation goals, which can reflect some basic characteristics of the evaluation object. The index is specific and measurable, and it is the observation point of the goal. Definite conclusions can be drawn through actual observation of objects. Generally speaking, the evaluation index system includes three levels of evaluation indexes: they are the relationship between gradual decomposition and refinement. Among them, the first-level evaluation indicators and the second-level evaluation indicators are relatively abstract and cannot be used as a direct basis for evaluation. The third-level evaluation indicators should be specific, measurable and behavior-oriented, and can be used as a direct basis for teaching evaluation.
The entropy method is a relatively objective evaluation index weight assignment method, which can effectively avoid the subjectivity of artificial scoring and has high accuracy. But at the same time, this study also realizes that the entropy method has the defect that it cannot directly reflect the knowledge, opinions and empirical judgments of experts and scholars, and the weighted results obtained may be contrary to reality. Therefore, this article uses a combination of analytic hierarchy process and entropy method to determine the weight coefficient of each evaluation index of regional higher education.

3.3. Data Sources
The data in this article are mainly derived from the 2015-2020 China Statistical Yearbook, regional statistical yearbooks, the National Bureau of Statistics, the big data statistics platform, and the smart city comprehensive statistical information management platform.

4. Experimental Analysis of Big Data Technology of Precision Poverty Alleviation Tracking Audit System
We have carried out relevant statistics on our country’s poverty index in recent years, and used the above model to digitize it to make the results clearer. We have made statistics on the property of poor people and poverty alleviation measures. The specific data is shown in Table 1:

| Table 1. Poverty in recent years |
|-------------------------------|
| 2010 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|
| Fixed assets | 2.4 | 2.93 | 2.51 | 2.53 | 2.82 | 2.87 | 2.74 | 2.99 | 3.12 |
| Current assets | 2.94 | 3.15 | 2.95 | 2.96 | 2.91 | 3.09 | 3.32 | 3.52 | 3.56 |
| Income level | 3.46 | 3.47 | 3.9 | 3.42 | 3.3 | 3.5 | 3.61 | 3.77 | 4.21 |
| industry | 3.74 | 4.11 | 4.13 | 3.78 | 3.92 | 4.19 | 4.07 | 4.28 | 4.59 |
| Guarantee level | 4.23 | 4.31 | 4.36 | 4.35 | 4.21 | 4.4 | 4.74 | 4.4 | 4.96 |
| Poverty | 4.21 | 4.11 | 4.35 | 3.95 | 3.75 | 3.22 | 2.94 | 2.13 | 1.52 |
From Figure 1, we can see that with the implementation of poverty alleviation work this year, the living standards of our people have been continuously improved. Although there are some fluctuations in statistics, the overall income of residents has shown an increasing trend, while the overall poverty level is declining year by year, from 4.21 in 2010 to 1.52 in 2019. According to this trend, the goal of poverty alleviation can be achieved in 2020. In order to compare the accuracy of the follow-up audit, we also compared the data, as shown in Table 2:

### Table 2. Poverty in recent years

| Method                  | Fixed assets | Current assets | Income level | industry | Guarantee level | Poverty |
|-------------------------|--------------|----------------|--------------|----------|-----------------|---------|
| Traditional method      | 0.231        | 0.175          | 0.254        | 0.189    | 0.194           | 0.217   |
| Scene analysis          | 0.246        | 0.204          | 0.188        | 0.247    | 0.204           | 0.197   |
| Poverty Alleviation File| 0.257        | 0.193          | 0.257        | 0.361    | 0.299           | 0.183   |
| Help log                | 0.312        | 0.199          | 0.217        | 0.293    | 0.319           | 0.329   |
| Big Data                | 0.123        | 0.125          | 0.164        | 0.167    | 0.149           | 0.137   |
Figure 2. Comparison of audit methods

It can be seen from Figure 2 that in each audit method, the effects that can be achieved are different, but as a whole, through the introduction of the big data tracking audit program, the accuracy of each audit is better than other audit methods. To be accurate, the error index is much lower than other methods, which shows that in the poverty alleviation follow-up audit, the use of big data can play an extremely important role.

5. Conclusion
The targeted poverty alleviation model under the "Internet+" strategic plan is an effective way for my country to fully realize a well-off society. It fully utilizes the dividends of information technology such as the Internet and big data, and catches the information express for the development of poverty alleviation, and realizes my country's targeted poverty alleviation strategy as soon as possible aims. At the same time, as the poverty alleviation work has entered a period of overcoming difficulties, the traditional flood-irrigation poverty alleviation model has been unable to effectively reduce the poverty rate. The effective combination of Internet technology and poverty alleviation is a new direction for poverty alleviation under the new situation.

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