

# Research on Accounting Legalization Based on Big Data Background

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**Keywords:** Big data, Accounting legalization, Audit

**Abstract:** Under the background of big data era, accounting informatization not only faces various threats from the virtual world, but also faces the defects of the legal system and bears too many risks. Only in this way can we ensure the stable development of accounting legalization. Accounting information has the attribute of guiding the relationship between resource allocation and benefit distribution, which determines the close relationship between accounting and society. Accounting rule of law and rule of virtue are special manifestations of social rule of law and rule of virtue in accounting field. Therefore, it is necessary to give targeted countermeasures against the risk of accounting legalization under the special environment of big data, and only in this way can we ensure the stable development of accounting legalization.

## 1. Introduction

The difficult course of accounting legalization is not only a process of adapting to the requirements of economic development, exploring the mutual promotion and coordinated development of accounting and finance, finance and economy, but also a process of gradually summing up the experience and lessons of accounting development, understanding accounting rules, unifying accounting concepts and establishing accounting norms[1]. The revision and gradual improvement of Accounting Law indicates that China's accounting legalization has begun to take shape, which provides a basic environment and means for accounting rule of law, and will gradually realize the transition from accounting legalization to accounting rule of law.

Since entering the era of big data, accounting work has steadily moved towards the direction of accounting informationization, and under the action of information technology, accounting work efficiency has been greatly improved and accounting work cost has been reduced, but the accompanying risks have also cast a shadow over the good development of accounting informationization [2-3]. Big data is a large-scale data set that greatly exceeds the capabilities of traditional database software tools in terms of acquisition, storage, management and analysis. Big data has four basic characteristics: large scale, many kinds, fast processing speed and low value density. Its significance lies in professional processing of these data, not just mastering huge data information. On the basis of a broad understanding of accounting information system, this paper analyzes the realistic motivation of legalization of accounting information system based on the background of big data, studies the characteristics of legalization of accounting information system, and puts forward some suggestions on the path of legalization of accounting information system.

## 2. Background and Concept of Big Data

### 2.1 Background of Big Data

We measure and compare every day, and constantly evaluate our beauty, intelligence, agility and success through universal or non-universal scales. We will quantify everything, including income, quality of life and happiness. Our life is surrounded by data and information. Big data is developing rapidly, which determines the future trend of enterprises. Even though many enterprises do not have advanced awareness of the era of big data explosion, people will see the increasingly important influence of big data on enterprises as time goes by.

## 2.2 Definition of Big Data

Big data doesn't just mean huge data, it is a new thing with the development of Internet in China. Today, with the popularization of mobile Internet, with the popularization of various intelligent products and emerging software, the consumption means and habits of ordinary consumers have undergone tremendous changes, and new data information will be generated every moment. Big data comes into being with this challenge. Therefore, big data refers to the use of massive information and the use of new data analysis methods to extract useful information, so as to serve the decision-making of enterprises.

Data mining is the core of big data processing. Data mining, also known as data exploration and data mining, is a step of database knowledge discovery [4]. It mainly refers to finding out the implied, unknown but valuable data from a large number of fuzzy and random data. The technical research level of big data is shown in Figure 1.

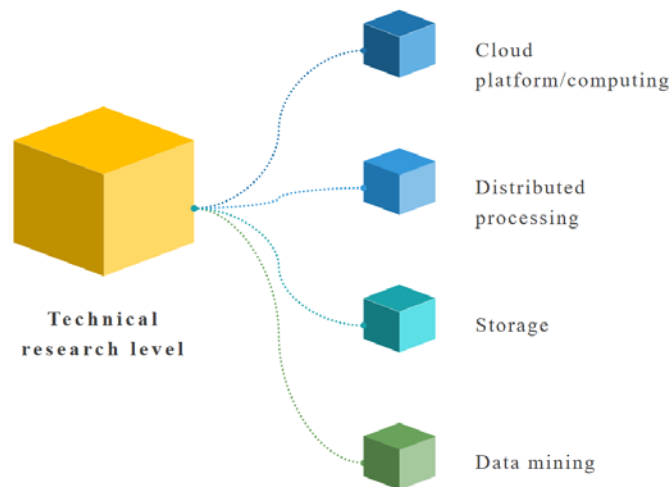


Fig.1 Technical Research Level Involved in Big Data

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## 3. The Influence of Big Data Era on Financial Accounting

Managers of enterprises want to get big data that can play an important role in business decision-making besides report data, and also want to get time-sensitive big data instead of lagging accounting information. The practical aspects of big data are shown in Figure 2.

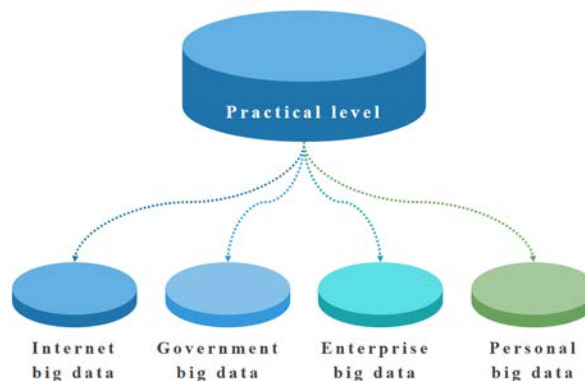


Fig.2 Practical Aspects of Big Data

### **3.1 Transformation of Structured Data to Multiple Types**

In the past traditional financial data analysis, enterprises often choose a single quantifiable financial data for analysis, with financial statements as the only result; In the era of big data, the analysis of enterprises is more diversified, which can not only analyze traditional financial information, but also analyze a large number of sub-financial information. All links of enterprises can be analyzed through big data, and finally more reliable results can be obtained.

### **3.2 Mining Transformation of Process**

In the past, the traditional financial analysis was based on the fact that it had already happened, which produced certain results. According to the analysis with the results, and after giving appropriate feedback and adjustment, this analysis method could not make a good prevention beforehand, and mistakes must occur, and it could not be avoided in time [5]. In the era of big data, we can trace the application scope of data forward according to different information, and even make timely adjustments according to the information of different consumers, so that enterprises can quickly respond to market changes and have a favorable and positive impact on their investment decisions.

### **3.3 Big Data is a Double-Edged Sword**

Due to the rapid development of information and the wide application of computer technology, it is easier and simpler to steal data. Many businessmen bundle big data with other businesses, and many personal information is easily stolen by people with ulterior motives on the Internet. Especially in recent years, the network risks are increasing, and personal information and money information are easily stolen. According to a recent research report in Europe, the threat to personal privacy in the era of big data is far more serious than people think.

How to avoid the disclosure of personal information in the era of big data and the security of private information of enterprises must be considered. Therefore, when people use big data for financial analysis, they should pay attention to the confidentiality of information. Once the financial information of enterprises is leaked, it often causes immeasurable losses. Therefore, the financial sector should strengthen the construction of financial information security, not only applying big data analysis, but also protecting the key financial information of enterprises.

## **4. Motivation of Legalization of Accounting Information System**

### **4.1 Accounting and Economic Activities Reflect Economic Activities**

Accounting and economic activities go hand in hand, accounting behavior reflects economic activities quickly and timely, and accounting function expands constantly. From the beginning, the role, function or value of accounting is the balance of interests [6]. Among the three functions of distribution, management and supervision, distribution is the basic function, the management function is gradually developed, and the supervision function is the result of the large-scale organization of economic activities. Therefore, on the basis of the traditional distribution function, management function and supervision function, accounting also plays the role of display function and evaluation function. The display and evaluation function of accounting is the link and basis for the accounting subject to realize the transaction and investment contact with the outside world and other aspects.

### **4.2 Accounting Information System Constitutes the Foundation of Social Economy**

In a highly socialized environment, honesty and credit are the basic requirements of enterprises, accounting behavior is the basic way for enterprises to show honesty and credit, and the core value of accounting is to truly reflect human wealth and its changes in the most economical and effective way, so as to maintain social trust. When an enterprise withdraws from market liquidation, the result of accounting behavior is the basic basis of liquidation. Orderly disintegration will cause the smallest shock to the social and economic operation as much as possible, and accounting behavior

must be legalized. Banks, in particular, require enterprises to submit proof of performance ability, mainly relying on the results of accounting behavior. Even in small enterprises, the results of accounting behavior have become the medium of financing for small enterprises, such as mortgage of accounts receivable, and accounting books have become evidence of financing behavior.

#### **4.3 Social and Economic Organism Depends on Accounting Work**

In the whole socio-economic organism, whether it is the investigation of the microeconomic efficiency of accounting subjects or the judgment of the overall macroeconomic operation of the socio-economic organism, it must depend on the results of accounting work. True and complete economic information is the basis for each subject to realize economic freedom and efficiency, and it is also the basic premise for realizing fairness.

At present, the basic functions of accounting are the maintenance and encouragement of property rights, the reduction of transaction costs, and the generation of macroeconomic information. The legal accounting information system can take into account the interests of all stakeholders. Legalized accounting information system can play a better role in balancing and coordinating the relationship between stakeholders, which also fully reflects the essential attributes of balanced coordination and social standard displayed by legalized accounting information system.

### **5. Present Situation of Accounting Rule of Law in China**

If China makes a horizontal comparison of accounting laws and regulations between China and western countries, it will be found that China's accounting legal system is not less than that of western countries, and it is rare for the legislature to enact the Accounting Law alone. Many countries do not have special accounting laws, but these contents are written into company laws or other laws, which shows that our government attaches importance to accounting work.

The rule of law should include two meanings: to obtain universal obedience by written legal order, and the law that everyone obeys is to make good laws. Aristotle's definition of the rule of law reveals two basic characteristics of the rule of law, one is the essence of the rule of law, that is, the universality and supremacy of law, and the other is the form of the rule of law, that is, the justice and rationality of the law itself.

#### **5.1 The Universality of Accounting Law**

Restricting power is the basic condition to realize the universality and supremacy of law, because throughout the ages, the main threat to the universality of law comes not from ordinary citizens, but from government power and government officials. Non-compliance with laws, lax enforcement of laws, unfair justice, suppression of laws by power and substitution of laws by words all come from the government and government officials with government power.

Although China's accounting rule of law has made some achievements, the intervention and influence of the government, especially the local administrative organs, on the accounting activities of enterprises is still very great [7]. Theoretically speaking, the central government's attitude towards accounting fraud is clearly opposed, because it does not have its own special interests and does not condone the interest impulse of accounting fraud. Therefore, on the one hand, local governments have the responsibility to find and stop any accounting fraud in accordance with the requirements of the law; On the other hand, as a local government, after all, it has its own local interests. The promotion mechanism of local officials is often directly related to the interesting and good development of local economy. The achievements of local government officials mainly come from the achievements of local enterprises.

Excessive intervention of government power, on the one hand, exerts great pressure on those responsible persons and accountants who are willing to abide by accounting ethics, and they have to violate the law to make accounting fraud because they are afraid of government power; on the other hand, this kind of government power provides an umbrella for individuals who make accounting fraud to resist legal sanctions. Therefore, the excessive intervention of government power in accounting activities directly challenges the authority and universality of accounting law.

## 5.2 Justice and Rationality of Accounting Law Itself

The form of the rule of law is embodied in two aspects: First, legal norms must be clear, moderate, open, coordinated among rules, and have a clear scope of effectiveness and sanctions; Second, the law should be a “good law”, that is, the law must reflect the will of the broad masses of the people, embody objective laws, and guarantee the rights and freedoms of the broad masses of the people.

We will focus on the listed companies in the capital market, and evaluate the quality of China's accounting rule of law from the above two aspects. We will find that the current accounting laws and regulations have the following main problems:

(1) There are some differences in accounting related laws and regulations

The differences in accounting laws and regulations are mainly reflected in the different provisions of relevant laws on the legal responsibilities of companies, supervisors and other directly responsible personnel, especially the amount of penalties for administrative responsibilities. Therefore, when it comes to punishing companies or individuals who violate regulations, it is very problematic to invoke which law as the basis for judging legal liability.

(2) The distribution of accounting legal responsibility is not clear

Specific performance: For non-listed companies, “Accounting Law” stipulates that the person in charge of the unit and the accountant shall bear the responsibility for accounting work, and the person in charge of the unit shall bear the primary responsibility. However, there is no corresponding provision on how to share the legal responsibilities of the two. Accounting law gives financial, auditing, securities supervision and other departments the power to supervise, inspect and punish unit accounting, but there is no clear explanation for the division of labor among these departments. Although these departments have their own emphases, they often pay attention to each other, which forms the multi-head management in the accounting field.

(3) The severity of accounting legal liability is insufficient

Civil punishment is the legal punishment that can best protect the interests of investors. Because criminal punishment and administrative punishment mainly reflect the punishment for infringers, aiming at cracking down on and curbing illegal and criminal acts, they cannot recover the losses that have already occurred to victims, while civil punishment reflects the compensation for victims, thus protecting the interests of victims to the greatest extent. Therefore, civil punishment not only protects the interests of investors, but also greatly deepens the severity of the accounting legal responsibility of offenders, and has a stronger deterrent effect.

From the perspective of current legal provisions and procedural law theory, it is not very appropriate. In our country, there is no such pre-procedure in accepting other civil litigation cases. From the international practice, it is also a special case [8]. The introduction of administrative preconditions by the Supreme Court may take into account that if it is not done, it will cause “litigation explosion”, but objectively, this regulation makes the litigation rights of investors and shareholders completely subject to the working rhythm and arrangement of the administrative departments, and the relevant departments delay or even neglect their duties, thus seriously damaging the stripping benefits of investors.

## 6. The Significance of the Promulgation of the New Accounting Law to Promote the Process of Accounting Legalization

### 6.1 The Legislative Purpose Has Undergone Fundamental Changes

The new “Accounting Law” puts forward the legislative purpose of “standardizing accounting behavior, ensuring the authenticity and integrity of accounting data, strengthening economic management and financial management, improving economic efficiency and maintaining the order of socialist market economy”. With the deepening of reform and opening up and the development of market economy, the service objects of accounting work are more diversified. Accounting information has gradually become an important basis for managers, investors, creditors and government departments to improve management, evaluate financial situation and make investment

decisions. Whether accounting behavior is standardized or not and whether accounting information is true and complete has attracted more and more attention from all walks of life.

## **6.2 Accounting Responsibility Has Been Strengthened**

Article 4 of the new Accounting Law stipulates: “The person in charge of the unit is responsible for the authenticity and completeness of the accounting work and accounting materials of the unit.” This provision establishes that the person in charge of the unit is the main body of legal responsibility for the accounting behavior of the unit, which is a legal constraint for the unit leaders to perform their leadership duties and exercise their powers in the field of accounting work, and is of great significance to ensure the quality of accounting work [9]. In the original Accounting Law, the person in charge of the unit, accountants and other personnel were all regarded as accounting subjects, which resulted in the situation of “all being responsible but not all being responsible”. The new Accounting Law clarifies that the person in charge of the unit is the main body of accounting responsibility of the unit, which is a great development of accounting law.

## **6.3 The Accounting Supervision System is More Perfect**

The new Accounting Law regards how to establish a perfect accounting supervision system as an important guiding ideology of accounting legislation, and divides accounting supervision into two levels: internal supervision and external supervision. In the internal supervision mechanism, accounting law requires all units to establish an internal control system, and clarify the supervision obligation and prohibited behavior of the person in charge of the unit. It reflects the great transformation of China's economic supervision function. The government supervision has made it clear that the financial department is the supervision and inspection department of accounting work, and has stipulated the duties and powers of the financial department and other government departments to supervise and inspect the accounting data of relevant units, that is, “if the relevant supervision and inspection departments have reached a conclusion that they can meet the needs of other supervision and inspection departments, other supervision and inspection departments should make use of them to avoid repeated audit.” This not only strengthens the state supervision, but also avoids repeated inspections.

## **6.4 The Legal Responsibility is More Clear**

The revised Accounting Law clearly regulates the legal responsibility and punishment of accounting violations. Various illegal accounting behaviors and specific punishment standards are listed: the punishment for illegal accounting behaviors is strengthened; the forms and means of administrative sanctions are increased. Including: blocking the notification of illegal units, imposing fines; imposing fines on the person in charge and other directly responsible personnel who are responsible for winning and accepting illegal units; imposing administrative sanctions on the national staff of illegal units; revoking the accounting qualification certificates of illegal accountants, etc.

# **7. Thoughts on Accounting Legalization under the Background of Big Data**

## **7.1 Change the Audit Report Mode and Audit Content**

At present, in the financial department of the company, important original accounting vouchers and unstructured data obtained by scanning technology have been saved in accounting vouchers at the same time. Thereby ensuring the integrity of accounting vouchers, realizing the electronic preservation of unstructured data, and being more conducive to the integration and allocation of resources. Figure 3 shows the expansion of accounting informatization.

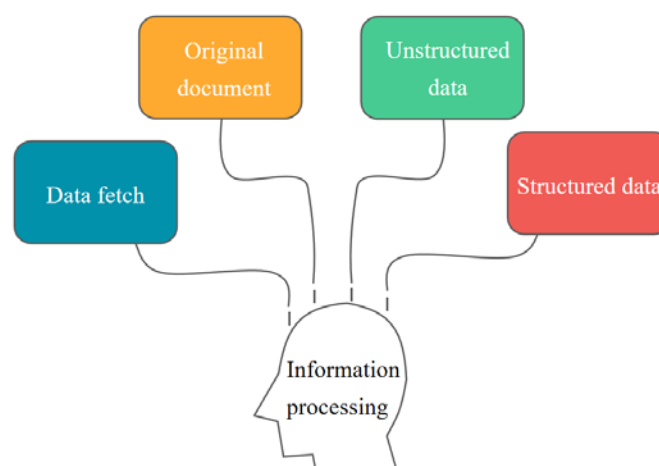


Fig.3 Expand Accounting Informatization

Single audit report is no longer suitable for the era of big data, so it is particularly important to change the audit report mode and audit content. When the financial management function changes, the audit function and the content of audit report should also change with the change of the situation, and the unchanging audit report will be gradually eliminated. Therefore, the internal audit department of the company timely adjusts the contents of the audit report and no longer adopts the original single audit report template.

For example, the original audit report mainly focuses on structural data, ignoring the value brought by non-structural data. The audit institution of the company revised the original audit report template, which not only explained and announced from the financial point of view, but also found valuable suggestions for the management of the company from the relevance, commonality and regularity of the data, and disclosed them in the report.

Big data system is based on business system and maintained by business personnel. Therefore, how to ensure the stability of financial data and audit data, which is not affected by data maintenance and update, is also one of the future research topics. Big data research and development platform has many meanings, as shown in Table 1:

Table 1 Basic Contents Of Data Research and Development Center

Features	Explanation
Data integration and exchange center	It is a comprehensive development and integrated application platform integrating foundation and application
Building platform	Provide a series of complete semantic data processing functions
Strong compatibility data warehouse	Under the same framework, the data of different manufacturers, different formats, different standards and distributed in different locations are unified in one system
Well-defined functional warehouse	Support and manage functions provided in a variety of ways
Application integration system	By adopting the flexible design concept, the system can be built quickly and can adapt to the change of demand and make rapid adjustment

Collecting, mining, analyzing and integrating data to obtain valuable big data is the whole process of data analysis of business departments. This process can be an important step to check whether these data are valid and usable. The large database includes not only the data of previous years, but also a lot of current data, so the validity of data mainly depends on the data quality and the compliance and rationality of data analysis. Data security must be guaranteed in storage, so it is necessary to establish a data access mechanism to avoid malicious access and deliberate attack of data by others. Moreover, the data should be monitored in real time, and the data encryption mechanism should be established to provide necessary measures for auditing.

## 7.2 Combination of Accounting Rule by Law and Accounting Rule by Virtue

The combination of accounting rule of law and accounting rule of virtue should always do a good job in two aspects:

First of all, we must unify our understanding: accounting legalization is the only way to achieve an ideal accounting working state and a stable and orderly accounting order; the relationship between accounting legalization and accounting ethics should be regarded as the respective status and role of accounting laws and accounting ethics in the process of establishing an accounting society ruled by law. In the process of promoting accounting legalization, accounting laws and regulations should become the main accounting governance means, accounting ethics is an important supplement and auxiliary force of accounting laws and regulations, and accounting laws and regulations are a powerful guarantee of accounting ethics.

Secondly, improve the quality of accounting personnel. The personnel here not only refer to accountants, but also include the heads of units, personnel of accounting administrative supervision departments, government personnel, law enforcement and judicial personnel of accounting economic cases. On the premise of strict certification and examination system of accounting personnel and perfect internal control mechanism of enterprises, it is necessary to strengthen the professional training of accounting personnel; For the person in charge of the unit, the personnel of the accounting administrative supervision department and the government personnel, the key point is to improve the accounting moral quality of these three types of personnel and strengthen their accounting integrity awareness.

### **7.3 Continuously Improve and Adjust the Supporting Reform Measures of Relevant Laws**

To solve the problem of legal economy in the development of market economy is not just to solve the problem of the number of all-inclusive legal systems covering all walks of life, but to solve the scientific and systematic problems in the establishment and implementation of legal systems. Therefore, apart from the unification and coordination within the accounting legal system, it is also very important to maintain the harmony and unity of the external legal environment.

Under the current conditions, we can consider:

First of all, the penalty department can be determined according to the principle of “first accepting”, and the first accepting department can exercise the power of administrative punishment for the same illegal act, and strictly implement the basic principle of “no more punishment for one case”; For other kinds of administrative punishment right, each unit can implement it according to relevant laws and regulations.

Secondly, criminal laws should be amended or interpreted judicially. Those who commit crimes due to accounting violations should be punished severely for felony and lightly for misdemeanor, and the crimes and punishments should be equal. Third, to improve the legal provisions of civil compensation for accounting infringement, we can make up for the deficiencies and defects of the law in time in the form of judicial interpretation, so as to effectively safeguard the legitimate rights and interests of the parties.

## **8. Conclusion**

The rise and development of big data has brought unprecedented challenges and opportunities to the accounting and auditing work of enterprises. Facing these new opportunities, how to make use of big data for people, how to broaden the horizon and combine big data with accounting and auditing work, and truly provide real-time business decision-making reference for enterprises, are the problems faced by any enterprise. Because the conditions for the smooth operation of market economy are the equality of stakeholders and the freedom of exchange of economic resources. Therefore, to build a society ruled by law and develop market economy, we must overcome the cultural values of rule by man. In this sense, the construction of rule by law is also cultural construction, and the construction of accounting rule by law also needs the cultural values of rule by law.

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