

## Research on the characteristics of intelligent contract and its accounting application based on block chain technology

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**Abstract:** The intelligent contract has its data transparency and permanent content with the related characteristics. The block chain technology based on the background of intelligent contract continuously improve its contract execution efficiency, not only expanded the scope of the contract but also reduces the cost for the implementation of the relevant contracts. This paper makes an in-depth analysis and discussion on the development characteristics of intelligent contract under the current regional block connection and its application status of financial accounting, and provides a more definite development direction for the long-term sustainable development of intelligent contract.

### 1. Analysis on the development of intelligent contract under regional block linkage technology at the present stage

Intelligent contract is a corresponding computer program that can execute the contract terms for some contents stored in the area block through digital and other relevant forms. Under the management of the big data platform, this program can automatically execute the rights and obligations of both sides of the transaction, and process and complete relevant programs through the logic functions and other contents provided in the computer program. In order to show the block chain technology more clearly and intuitively, the operation structure of the widely used asymmetric encryption system in the block chain in figure 1 is presented. See figure 1 for details

At present, the application of intelligent contract under regional block linkage technology is mainly divided into three different parts [1]. First, since the two parties have different considerations in the development of the contract, and have to assume corresponding rights and obligations, generally, there are procedures to develop digital codes. Secondly, the intelligent contract has a corresponding digital code sharing platform. Through the display of the platform, different network nodes support the display of the protocol. Finally, the intelligent contract can be regarded as the trigger of logic language in the process of execution. Therefore, when the execution button is set off under relative conditions, the next operation to execute the action instruction will be triggered until all the instructions are fulfilled, which is the end of the intelligent contract.

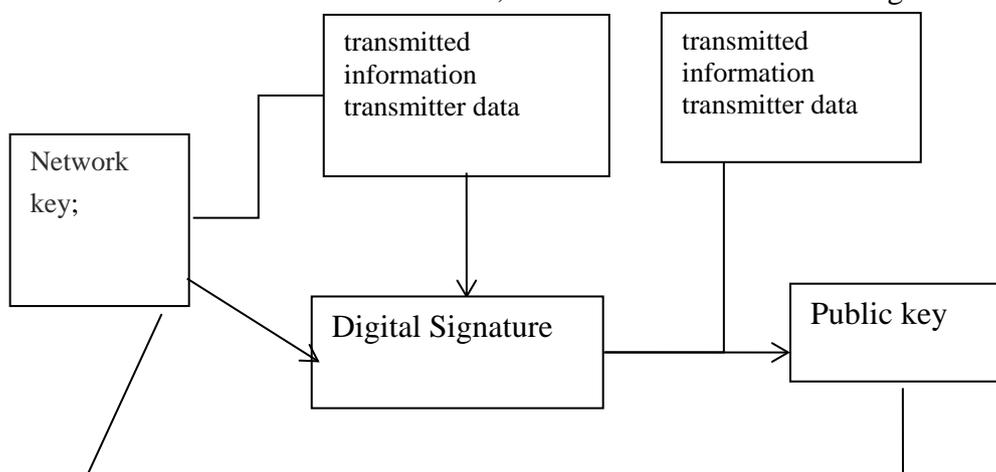


Figure 1 operation structure diagram of asymmetric encryption system

## **1.1 Non-tampering features of data content in intelligent contracts**

In the process of phased preparation, system storage and task instruction execution, intelligent contract also involves the collection of contract-related resources and the collection of participants. In the process of the development of its own system, regional block chain has relevant characteristics that cannot be tampered with. Therefore, the intelligent contract developed with the regional block link technology also has the same characteristics as the regional block chain, such as non-tamper ability, in the process of data code output and operation.

## **1.2 The characteristics of data transparency and contract permanence in intelligent contracts**

The data existing in smart contracts also have corresponding openness and transparency, which can ensure that both parties can further understand and analyze the corresponding codes and data during the transaction process. At the same time, a large number of nodes with a wide distribution range become the support for the operation of the important node network in the regional block chain. Therefore, when some nodes fail, there will be no serious operation impact on the whole intelligent contract. Therefore, the permanence of intelligent contract is guaranteed in theory.

## **2. Analysis of the advantage content of regional block intelligent contract**

### **2.1 Effectively avoid subjective factors and maximize fairness and objectivity**

In the signing and performance of traditional contracts, the main target objects are mainly the corresponding scenes such as subjective request requirements. Intelligent contract can not only meet the subjective request, but also effectively meet the objective request and other relevant scenarios. This can not only reduce the one-sided influence and judgment brought by human subjectivity, but also scientifically and reasonably eliminate the errors and loopholes generated by the two parties in the process of human operation, and effectively improve the implementation rate of the contract by both parties.

### **2.2 Maximize the efficiency of contract execution and improve the ability and level of intelligent judgment**

With the continuous improvement and development of automation, intelligent contracts can observe and supervise the implementation of both sides of the transaction. Once a party to the contract meets and triggers the relevant conditions of the transaction, the computer system will make a quick judgment on the form and content of the intelligent contract, which not only guarantees the obligations and rights of both parties to the contract, but also takes corresponding punishment measures for users who breach the contract. It solves the problem that the traditional contract is not automatically incorporated into the implementation of the contract because the subjective judgment affects the objective factors. Its application is reflected in the aspect of digital bills. For more intuitive performance, the application scene of digital bills is shown in figure 2, as shown in figure 2.

### **2.3 Reduce the cost of contract performance through code execution**

Intelligent contract not only has many advantages above, but also has obvious value and function in the cost saving of contract. Not only can the code be effectively executed through the computer, the details are shown in figure 3, intelligent contract registration interface diagram. It can also reduce excessive human and physical input in the execution process. On the other hand, in the process of traditional contract execution, a large amount of manpower and material resources need to be assigned to supervise and judge the performance of both parties of the contract. Therefore, the implementation efficiency and level are also improved by means of intelligent contract.

### 3. Application scheme of intelligent contract in future industry development

#### 3.1 Optimize the management mode of accounts receivable in the financial accounting industry to reduce the risk of bad debts

Generally speaking, intelligent contract is based on the long-term development of regional block chain, which can not only provide transparent and open data information for both parties to the contract, but also conduct targeted analysis on both parties' ability to repay debts, so as to optimize the management mode of accounts receivable in the financial accounting industry and reduce the risk of bad debts. Not only can that, but the existence of intelligent contracts also automatically divide the accounts of debtors when they fail to repay debts, ensuring the interests of creditors. For example, in the enterprise in the process of the enterprise for sale of goods to party b, party a after the goods arrived, did not timely delivered by party b enterprise loan, then both parties can sign character content according to the business, for payment timely delivery, and the corresponding contract content establishment for intelligence in the form of contract, uploaded to the regional block chain, ensure that the interests of the enterprise own development at the same time, also reduces the risk of a corporate accounts receivable bad existence.

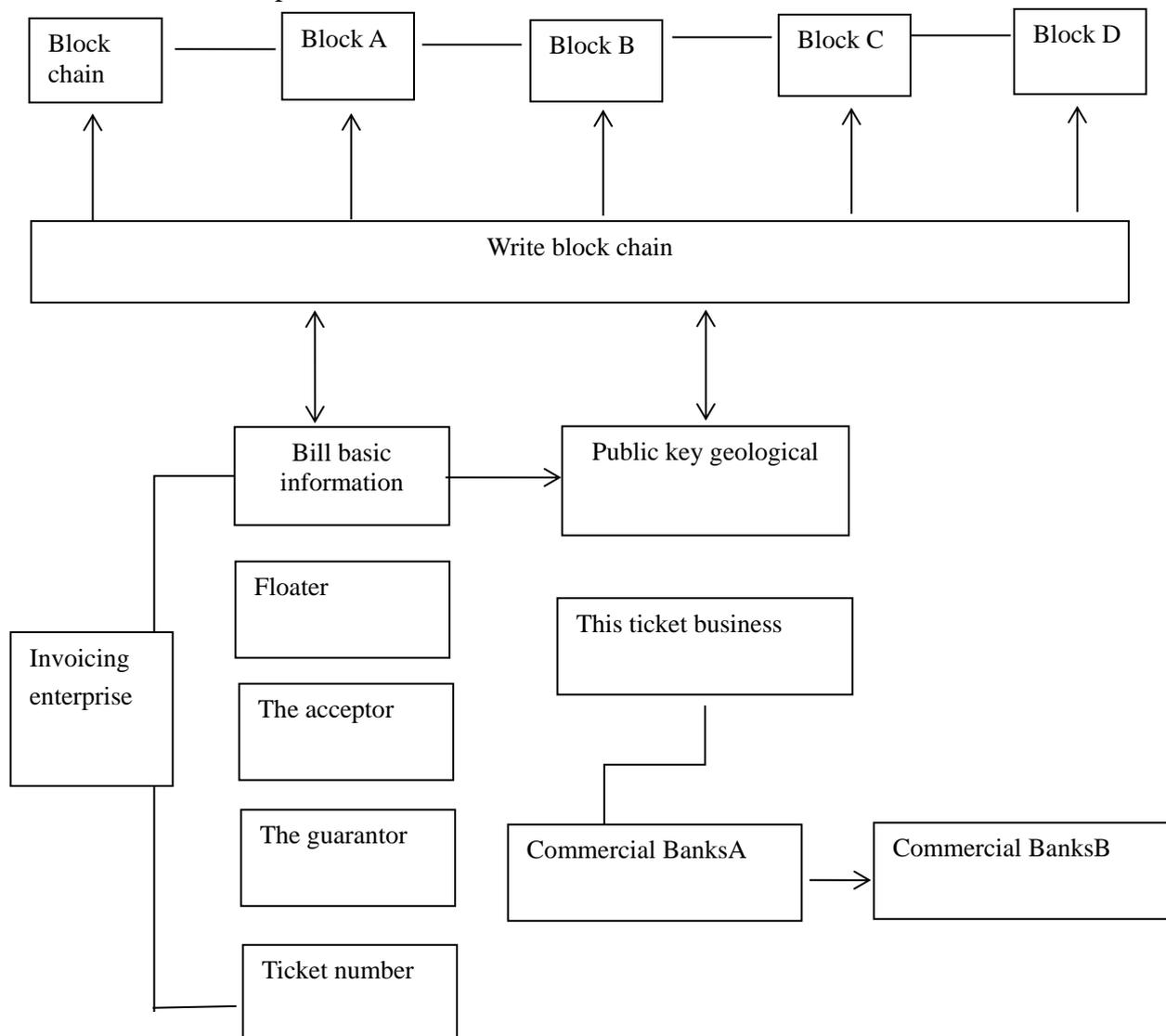


Figure 2 digital ticket application scenarios

### 3.2 Reduce the work intensity of financial accounting personnel, and effectively avoid the occurrence of incorrect accounts in the management process

Traditional contract after signed and take effect, if the content of the agreement the two sides need to contract for the specific item revision and change, need relevant financial and accounting personnel for effective check, not only that, if the original contract agreement with the actual enterprise accounting business appeared difference, also need relevant financial and accounting personnel to make effective check and adjust wrong phenomenon. It will not only increase the workload of financial accountants in the work process, but also may affect the orderly conduct of many businesses. And through the way of intelligent contracts signed, can not only effectively reduce the work intensity of financial personnel, but also avoid the emergence of many unhealthy phenomenon, due to intelligent contract has certain transparency and openness, in the process of production for regional block chain, different network nodes can also view the contents of the contract. In the case that the contract cannot be changed after the signing of the agreement, the wrong account phenomenon caused by the content change in the traditional contract can be reduced and avoided.

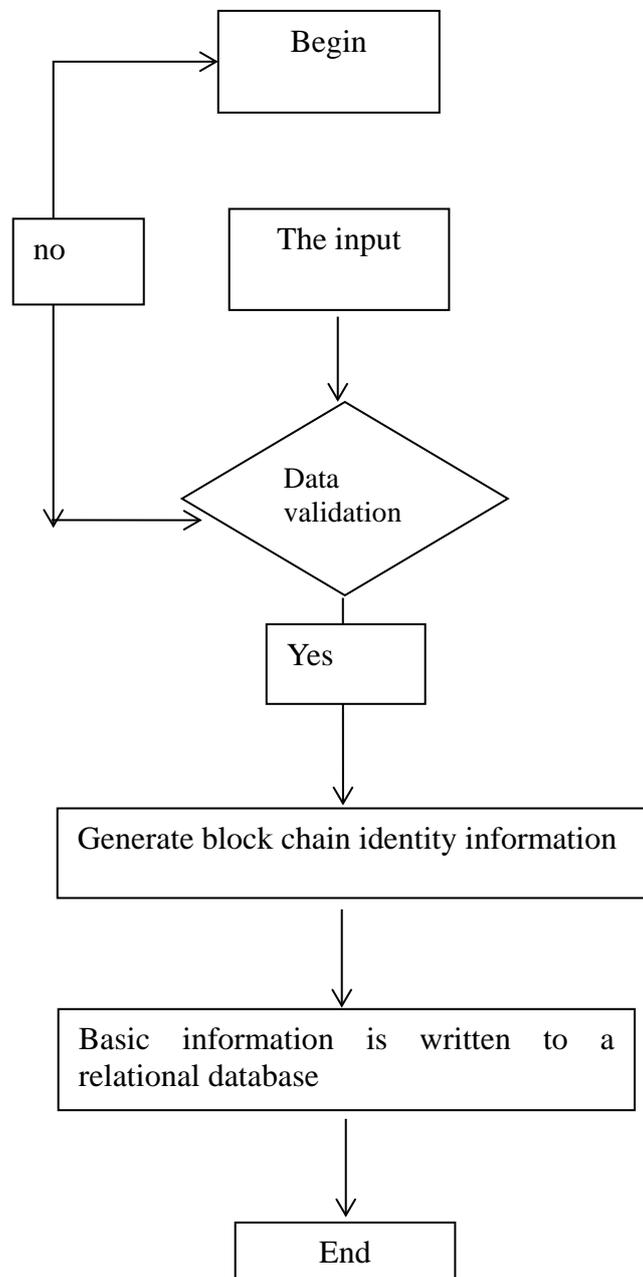


Figure 3 intelligent contract registration interface diagram

### **3.3 Improve the authenticity in the accounting process of financial accounting and improve the appearance of financial fraud**

Many enterprises in order to increase the appreciation of love house data, relevant leaders and decision makers will instruct relevant financial accounting personnel to conduct accounting falsification, and then increase the trust of the partners, for enterprises to win more substantial economic profits. However, the lack of authenticity in financial accounting is not only conducive to the development of enterprises, but also affects the optimization of partners. The signing of intelligent contracts can ensure the authenticity of financial data from the root. From different nodes in the block chain of regions, you can not only view the terms of the contract, but also specify the amount of the transaction. If financial fraud occurs in an enterprise or company, the credibility of the enterprise will be reduced and the overall development level of the enterprise in the industry will be comprehensively improved.

### **4. Conclusion**

The existence of intelligent contract in the regional block chain not only provides effective supervision and guarantee for the development of the industry and the promotion of enterprises, but also improves the consciousness of both parties of the contract from the aspects of fairness, objectivity and full cooperation. Therefore, in the future development of the industry, intelligent contract will not only become an important auxiliary tool for financial accounting workers, but also fundamentally improve the ability and level of enterprise financial accounting management. Therefore, it is worthy of further analysis and exploration by relevant researchers.

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