

Construction of Cross-border International Commercial Mediation Mechanism Based on Blockchain Technology

Huiying Zhong^{1,a*}, Leiwun Kong^{2,b}, Ruiguang Chen^{3,c}, Yuetian Wang^{4,d}, Lihua Huang^{5,e}, Shuaixian Liu^{6,f}

¹Guangdong Machinery Technician College, Guangzhou, China

²Lektou Law Firm, Macao, China

³Nansha District People's Court of Guangzhou, Guangzhou, China

⁴Guangdong Abner Law Firm, Guangzhou, China

⁵Guangzhou Court of the Internet, Guangzhou, China

⁶Hong Kong Intellectual Property Advisory Service Co., Ltd., Hong Kong, China

^aadacourt1107@163.com, ^blei@lektou.com, ^c928045812@qq.com, ^d123192082@qq.com,

^e1458808407@qq.com, ^falex.lau@hkipas.com

*Corresponding Author

Abstract: With the development of economic globalization, international commercial disputes are increasing day by day, and international commercial mediation has gradually become an important part of the dispute resolution mechanism. At the same time, digital currency, which relies on blockchain technology, has brought unprecedented changes to international commercial exchanges and has been applied in many fields of international commercial affairs. However, there are difficulties in the application of blockchain in international commerce. At present, there is no relevant law to regulate the judicial use of blockchain, which brings risks to CNC security and personal privacy protection. Based on this, this paper aims to study the construction of a cross-border international commercial mediation mechanism based on blockchain technology. First, it analyzes the characteristics of blockchain and international commercial mediation and the advantages of international commercial mediation. Then, through a questionnaire survey of law students from three universities, the deficiencies of China's International Commercial Mediation mechanism and the difficulties in the application of blockchain in International Commercial Mediation are understood. Finally, according to the survey results, suggestions on the construction of cross-border International Commercial Mediation mechanism based on blockchain technology are put forward. The investigation results show that the application of blockchain in international commercial mediation faces many legal problems, and current international commercial mediation lacks a unified law to regulate the use of blockchain, which will cause some complexity in the application of laws, jurisdiction, and other issues.

Keywords: Blockchain Technology, International Commercial Mediation, Commercial Mediation Mechanism, Legal Supervision

1. Introduction

Blockchain technology has set off a paradigm shift in various fields at home and abroad. At present, international trade barriers are becoming more and more serious, and improving the dispute settlement mechanisms of international trade disputes has also become one of the urgent issues to be solved [1-2]. In order to completely subvert the traditional of international business operations, real-time financial innovation technology is expected to become a solution. New ways of applying computer technology such as distributed blockchain data storage, point-to-point transmission, consent mechanism, and encryption algorithm, have the characteristics of decentralization, openness and transparency, a high degree of autonomy, inviolability of information, anonymity and trace ability, reliability and other characteristics, which can establish trust relationships among international trade participants [3-4].

At present, the theory and mechanism of international trade mediation are not unified. Some scholars believe that international commercial mediation should be based on the United Nations UNCITRAL standards, except for judicial intervention, which only refers to the parties' submission of

international commercial disputes to independent mediation centers or multi-functional dispute resolution services [5-6]. Another group of scholars believes that international commercial mediation should be classified according to the nature of mediators, and those not affected by litigation should be classified as International Commercial Mediation in a narrow sense. At present, there is no uniform standard or quality for commercial mediation worldwide, which leads to many problems in commercial practice [7-8].

This article aims to study the construction of cross-border International Commercial Mediation mechanism based on blockchain technology. First, the characteristics of blockchain and international commercial mediation and the advantages of international commercial mediation are analyzed. Then through a questionnaire survey of law students from three universities, the deficiencies of our country's international commercial mediation mechanism and the difficulties of blockchain in the international arena are understood. Based on the survey results, suggestions on the construction of cross-border international commercial mediation mechanism based on blockchain technology are put forward.

2. Construction of a Cross-border International Commercial Mediation Mechanism Based on Blockchain Technology

2.1. Features of Blockchain

(1) Shared distributed

One of the most obvious characteristics of blockchain is its distribution. Distributed computer is a method of arranging each node in a certain layout order relative to the center, which is independent of the central server. This distributed computer is used to calculate the amounts of resources, commonly known as "decentralization". By sharing a distributed directory, blockchain technology enables every node (user) on the network to confirm and verify the information and authenticity of each pc transaction on the network, eliminating the repeated payments receipt. [9-10]

(2) High degree of autonomy

The blockchain itself has strong autonomy, which refers to an intelligent contract system based on the underlying layer of the blockchain, and can self-regulate the interior of the blockchain. From a technical point of view, the blockchain is based on an open protocol or consensus algorithm, and every node in the entire system can already exchange and store data automatically and safely in an incredible environment without manual intervention.

(3) Information non-usurpation

The hash algorithm is used for blockchain processing, in order to realize the non-modifiable information. One of the main characteristics of the hash algorithm is the irreversible encryption of the plain text, which makes the information in the database extremely secure. The blockchain uses hash values to locate blocks. Once the information of the blockchain is authenticated and added to a blockchain, it will be permanently stored and cannot be modified at will. Unless a system can effectively control more than 51% of the blockchain nodes at the same time, only one blockchain will fail to be modified. Therefore, its security and the immutability of the blockchain will be proportional to its computing power in the chain.

(4) Formula trust mechanism

From a technical point of view, the consent trust mechanism is a mathematical algorithm used in the blockchain system to establish trust between different nodes and obtain rights and interests. The consent mechanism uses technical approvals rather than central agencies to generate credit. Under the rules and practices set by the system, a node cannot deceive other nodes into counting [11-12].

2.2. Features of International Commercial Mediation

(1) Professionalism

International commercial mediation is a global business, not confined to a single country. Therefore, for the international commercial disputes involved, there are relatively high requirements for the professionalism of Commercial Mediation. As in the field of international commercial affairs, cases in many cases are beyond the scope of legal terms. Therefore, some lawyers said that if they think their case may lose in court, they will be more inclined to ask the parties to choose professional mediation to

reach a solution and prospects that is more valuable than the court decision.

(2) Voluntariness

The parties choose to apply mediation to resolve disputes under the full autonomy of will, after both parties agree to choose mediation, the time or place of mediation is mainly arranged by the parties, that is, the core of mediation lies in voluntariness, so it is easier for the parties to reach a settlement agreement and Willingness to perform can effectively circumvent the problem of difficulty in enforcement to a certain extent, and it is easier to resolve disputes.

(3) Intervention

In commercial mediation, the intervention of the mediator is an important step to achieve mediation. Due to the great differences of opinion between the two sides in the early stage of the dispute, it is often difficult for the parties to reach a settlement directly. At this time, the presence of a third party who can guide the mediation will make the mediation easier. Meanwhile, the emergence of a third person who can guide the mediator will make the mediation easier to reach, while protecting the interests of both parties, so that the dispute can be actually resolved while minimizing the adverse effects, thereby providing the possibility for future cooperation between the two parties without harming the parties.

(4) Adaptability

Both dispute resolution procedures and arbitration involve the selection and application of relevant substantive laws. Parties between different legal systems often face law enforcement difficulties caused by differences in legal culture, and the effectiveness of dispute resolution will also be greatly reduced. The International Commercial Mediation Organization has its own independent mediation rules, which solves this problem to a large extent. In the mediation mechanism, both parties can apply industry business practices or trade rules without involving law enforcement, which saves the parties' communication costs in the choice of substantive law and facilitates the rapid resolution of disputes.

(5) Inexpensiveness

The biggest advantage of international commercial mediation is that it can save time and money. The parties can communicate in time to avoid falling into prolonged litigation, and the expansion of business losses. Moreover, the cost of mediation is lower than the cost of litigation or arbitration under the same conditions. In addition, disputes between foreigners are generally resolved through litigation or arbitration, but it is more effective if choose mediation between relevant business partners to resolve disputes. As the dispute resolution method is mainly based on compromise and concessions, both parties can better maintain trade cooperation, which is also conducive to future cooperation, can effectively reduce disputes that lead to the termination of trade relations, and save national laws and administrative costs.

2.3. Advantages of International Commercial Mediation

(1) Conducive to maintaining long-term business relations

First, mediation is more flexible than disputes and arbitration. During the mediation process, both parties can not only express their opinions and positions on the dispute completely and without interference, but also communicate more frankly with the mediator at the next meeting, Thus forming a situation of mutual benefit. Second, mediation is more than just litigation and arbitration. Competition between the parties to the dispute is greatly weakened. For mediators, their focus is not on deciding whether to win or lose, but on how to better promote a win-win situation for both parties. Finally, because the settlement of disputes is a friendly compromise, the parties to the dispute can better maintain relations and promote future cooperation. Practical experience has also shown that mediation has achieved good results in international conventions and other trade disputes that emphasize the maintenance of friendly relations.

(2) Conducive to adapting to a diverse legal culture

International Commercial mediation helps to adapt different legal cultures. Globally, there are not only our country's civil law system, common law system and unique legal system, but also have the legal system of each country with its own characteristics. Although they are all civil law systems, the corresponding systems are not exactly the same, resulting in increased difficulty in law enforcement. The application of dispute resolution and arbitration procedures would imply the choice of the respective applicable substantive law. Therefore, the parties will inevitably face the problem of dealing

with completely different legal cultures, and the outcome of dispute resolution is likely to be greatly reduced. In the mediation mechanism, both parties can apply various industry practices or business rules without involving law enforcement. More importantly, it is the fairness of commercial behavior, and it also saves unnecessary communication costs between the two parties in the choice of substantive law, which is conducive to the rapid resolution of disputes between the two parties.

(3) Conducive to adapting to diverse traditional cultures

International Commercial mediation helps to adapt different traditional cultures. Culture itself is not necessarily the cause or factor of differences, but cultural differences have a significant impact on the process and outcome of dispute resolution. The reason why mediation has gained a place in the field of International commercial dispute settlement and has gradually developed is related to the influence of the traditional cultures of the East and the West. For example, China, a representative of Eastern, is under the Chinese Confucian ideology and culture that combines etiquette and law, the social environment in China so far still advocates the concept of harmony and supports the popular views at that time in different periods. Therefore, our country's problem coordination system can only be said to be in the initial stage from the very beginning. Similarly, the ADR movement, mainly represented by mediation, has also rapidly emerged in the West. Although this approach is based on respect for all parties and rational choices, the main focus is on the costs and benefits of deviating from normal values, rather than focusing on harmony and the situation of non-conflict. In the end, both Eastern and Western cultures chose mediation as a way to resolve disputes. Therefore, Commercial mediation, as a system born on demand under the comprehensive effect of the different subjective requirements of Eastern and Western cultures, its existence and wide application have proved that it is compatible with the cultures of different countries to a certain extent.

3. Experiment

3.1. Questionnaire Design

This paper takes the law students from three universities as the research object, and formulates total of 500 questionnaires on "Insufficiency of our country's International Commercial Mediation Mechanism" and "Difficulties in the Application of Blockchain in International Commercial Mediation", which were developed by the questionnaire star and generated a link to be sent to the class group by each counselor for students to fill in. Of the 500 questionnaires sent out, 487 were recovered, with a recovery rate of 97.4%. Then SPSS17.0 was used to process the data, and the invalid questionnaires were eliminated. Finally, there were 482 valid questionnaires, and the effective rate of the questionnaire was 96.4%.

3.2. Reliability Test of the Questionnaire

In order to test the reliability and stability of the questionnaire, the variance of the questionnaire results was first calculated, and then the reliability of the returned questionnaire was tested by the method of "half-half reliability" test. The test results confirm that the questionnaire is reliable.

$$S^2 = \frac{(M - X_1)^2 + (M - X_2)^2 + (M - X_3)^2 + \dots + (M - X_n)^2}{n} \quad (1)$$

$$r = 1 - S^2(1 - r_1) / S_n^2 \quad (2)$$

$$r = \frac{2r_{ban}}{1 + r_{ban}} \quad (3)$$

4. Discussion

4.1. Insufficiency of International Commercial Mediation Mechanism in China

According to the data in Table 1 and Figure 1, it can be seen that the law students of the three universities believe that the main deficiencies in the international commercial mediation mechanism are: (1) there is no special legislation for commercial mediation; (2) the international commercial mediator selection system is not perfect; (3) The settlement agreement has no enforceability; (4) The flexibility

of the mediation procedure is weak. Among them, there is no special legislation for commercial mediation accounting for the highest proportion, which is 37%. Nowadays, there is no international commercial mediation in China, which only relies on the independent mediation rules. There is no unified law recognized by all countries as a standard. Moreover, there is no clear legal regulation on the corresponding issues in the International Commercial Mediation procedure.

Table 1: The insufficiency of our country's International Commercial Mediation Mechanism

	College A	College B	College C
No specific legislation for commercial mediation	39%	35%	37%
The selection system of international commercial mediators is not perfect	18%	16%	20%
The settlement agreement is not enforceable.	21%	24%	13%
Weak flexibility in mediation procedures	22%	25%	30%

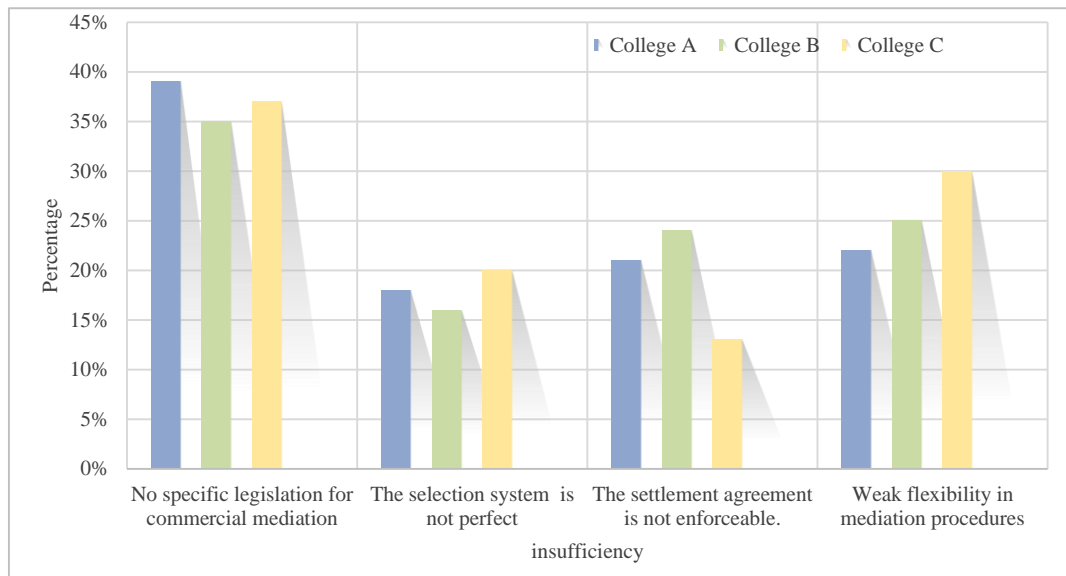


Figure 1: The insufficiency of our country's International Commercial Mediation Mechanism

4.2. Difficulties in the Application of Blockchain in International Commercial Mediation

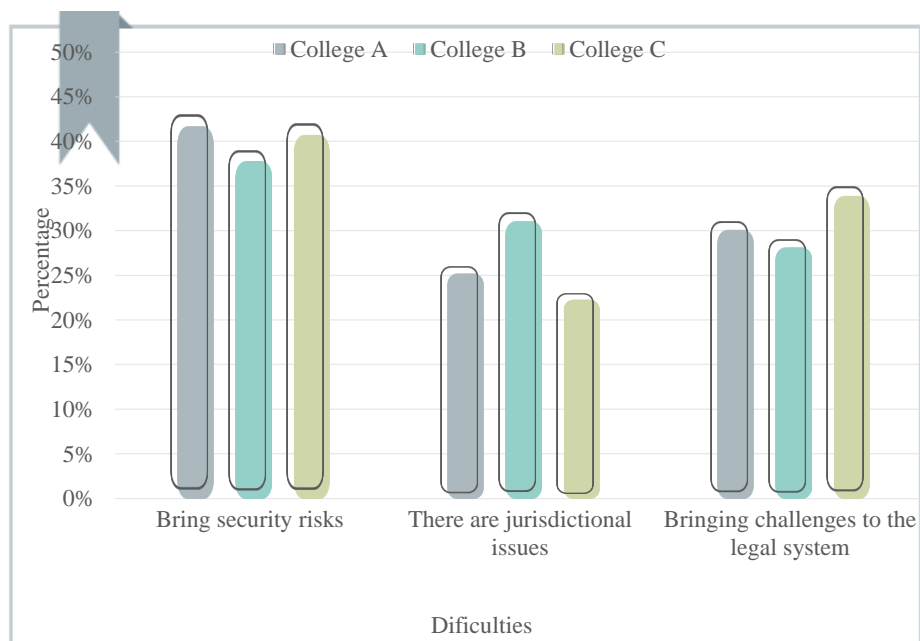


Figure 2: Difficulties of blockchain in international commercial mediation

It can be seen from Figure 2 that the application of blockchain in international commercial mediation faces many legal problems. The current international commercial mediation lacks a unified law to regulate the use of blockchain, which will cause some complexity in the application of law, jurisdiction, and other issues. In addition, blockchain technology is still in the process of development, and there are still technical risks, and there is currently no effective law to regulate it, which brings risks to data security and personal information protection in international commercial mediation.

4.3. Targeted Suggestions

(1) Establish a legal supervision system that meets the requirements of smart supervision

China's Internet surveillance is mainly supervised by a leading group of experts on internet rectification, and supervision measures are strictly in place. This kind of supervision method inevitably has disadvantages such as contradictory concepts, single problems, and traditional methods. When monitoring the application of blockchain in international commercial mediation, it is very important to change the supervision concept and apply intelligent supervision. The so-called intelligent monitoring is a kind of supervision diversification between command supervision and control and deregulation. Smart supervision relies on multiple regulatory agencies, multiple regulatory methods, and basic regulatory rules, and strives to prevent risks, promote innovation and consumption. Balance between multiple values, such as protecting people. And to provide flexible and inclusive regulatory policies for the smart blockchain supervision requirements in international commercial arbitration, smart supervision adhere to the bottom-up characteristics of blockchain technology, and create a predictable and step-by-step blockchain mediation environment.

(2) To reform the existing international mediation system

Blockchain is mainly to meet the current needs of informatization and fast-paced international commercial activities. The main service object is a large number of small foreign-related arbitrations, which does not conform to the arbitration procedures of current arbitration institutions. We can reform the arbitration procedures of the current arbitration institutions, such as setting up simplified mediation procedures to meet the needs of the case. In addition, we can set up a blockchain arbitration court with reference to international experience, so that lawyers, scholars and other experienced professionals who have extensive experience in blockchain and arbitration can form an arbitration tribunal to ensure that disputes are resolved quickly and effectively.

(3) Promote the use of blockchain in a cooperative way

As a way to resolve transnational disputes, international commercial mediation has a significant transnational nature. The use of blockchain in international commercial mediation breaks regional restrictions. The different provisions of the laws of different countries will not be conducive to the development of mediation. For example, the "Long Arm Jurisdiction" in the EU's General Data Regulations, which will have a negative impact on the examination and determination of evidence in the blockchain in international commercial arbitration. Therefore, countries should strengthen cooperation and formulate unified legal rules as soon as possible to regulate the use of blockchain in international commercial mediation. At the same time, countries should also strengthen cooperation, coordinate in international supervision, and implement a more unified supervision policy.

5. Conclusions

With the in-depth development of "The Belt and Road Initiative", Chinese enterprises, investors and countries and regions along the route have carried out close and frequent international commercial activities. In order to provide a better legal environment for international commercial activities, it is necessary to provide more efficient dispute resolution. Blockchain, as a non-temper and non-repudiation technology, will provide technical support for the electronic process of international commercial mediation, and has huge application prospects in solving cross-border e-commerce disputes, cross-border electronic evidence collection and cross-border enforcement, which will greatly improve the efficiency of international commercial mediation.

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