

Analysis of Third-party Scientific Achievements Transformation Platforms Based on Blockchain – Taking "Kechuang Bang" Company as An Example

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Abstract. The present scale of transformation of scientific and technological achievements in China continues to rise. However, compared with developed countries, the actual conversion rate and social value of China's scientific and technological achievements are not ideal. This article takes "Kechuang Bang" Company as an example and analyze the limitations of its function in the scientific and technological achievements transformation. Blockchain has been adopted in the article to provide effective suggestions for the future development of the third-party platform for the scientific and technological achievements transformation, which sets a successful example and stimulates the motivation of scientific transformation.

Keywords: Blockchain; Scientific and Technological Achievements Transformation; Case Analysis.

1. Introduction

Shanghai Cloud Incubation Information Technology Co., Ltd. is the first service organization in China to directly serve the technical achievement team and realize the achievement transformation. It mainly focuses on innovative technological achievements in new materials, advanced manufacturing, energy and environmental protection, information technology and other fields.

Its subsidiary company "Kechuang Bang" platform, which successfully created an innovative working mode of "tool + data + service", has made a huge contribution in achieving the docking of technology and industry, helping domestic and overseas technical teams to realize industrialization and promoting the overall operation of high-tech projects and external investment resources matching. At the same time, it provides services for the technological innovation of the majority of enterprises, to achieve the transformation and development of enterprises again under the new normal.

2. The limitations of operation mode of "Kechuang Bang" Company

2.1 Information asymmetry

When connecting suppliers and demanders of scientific and technological achievements, the company is highly likely to lack a comprehensive and in-depth understanding in the technology that has circulated in the market. It is difficult for the third-party platforms like "Kechuang Bang" to recognize the effective information and interact with both sides clearly, thus leading to the result that technology providers in the market fail to meet the requirements of enterprises or technology in urgent need and select the research topic deviating from the market demand.

2.2 Lack of credit

The "Kechuang Bang" company, the first intermediary service platform of scientific transformation in China, plays a pivotal role in the technology trading field. Compared with general commodity trading, technology trading is characterized by asymmetric information, incomplete information and technological uncertainty. The transaction results are highly uncertain, and both sides of the transaction are more dependent on the credibility of the intermediary, especially the ability to evaluate and transform the advancement and commercialization of technology projects by the third-party platform. Technical service intermediary plays the role of providing credit guarantee, reducing

transaction risk and improving the efficiency of technology transaction. At present, due to the lack of complete trust in the transformation platform of scientific and technological achievements, most of the cooperation lacks deep integration, which tend to be "point-to-point". Worse still, some even break the contract in the process of transaction.

2.3 Inadequate protection of intellectual property rights

The platforms like "Kechuang Bang" send the qualified technology to the demanders of scientific and technological achievements, which has caused some omissions and deficiencies in the protection of intellectual property rights such as technological patents, trade secrets and tacit knowledge, thus weakening the enthusiasm of the suppliers of technological achievements in providing scientific and technological achievements. At the same time, it is difficult to define, identify and grasp the relevant provisions on the protection of technical secrets and intellectual property rights, which leads to the difficulty of providing proof in the case of litigation.

3. The docking advantages of blockchain and "Kechuang Bang" Company

3.1 Decentralization helps solve information asymmetry

With the help of mechanism and P2P technology, blockchain entitles all parties on the chain to view and record information. Compared with the traditional mode, it has great advantages in the solutions of poor coordination among different subjects and opaque information. Blockchain can help "Kechuang Bang" Company enhance the information of the whole supply chain, which can easily obtain the latest information of the whole process, thus realizing the real-time monitoring, dynamic analysis, effective action, alleviating or eliminating the uncertainty of the transformation and enhancing the confidence of all participated parties. In addition, the information sharing system can reduce the friction in communication and coordination and improve the efficiency of information processing, which greatly reduce the cost of communication, supervision and evaluation.

It is safe to conclude that blockchain would perfectly solves the problem of information asymmetry that "Kechuang Bang" has face at present.

3.2 Trustless manner helps solve lack of credit

The trustless manner of blockchain is actually founded on the trust on the code, which is completely objective. Once the code has been validated, the object for interaction is no longer human, just code. This trust model is groundbreaking as each party in the blockchain encodes responsibility, obligation and benefit distribution into the smart contract, which is automatically triggered when the conditions are met and cannot be tampered with. The distribution of benefits among universities, financial institutions and enterprises is under the supervision of the intelligent system.

It is possible that blockchain enables "Kechuang Bang" Company to decentralize the trust among all parties so as to promote the deep integration of scientific and technological achievements transformation.

3.3 Traceability and tamper-proof help protect intellectual property rights

With the assist of hash function and timestamp, the entire business process can be traced back by blockchain, of which the prominent feature is uniqueness with each record time-stamped and immutable. It can effectively prevent data inventing from any participated parties. Due to the fact that all the operation of different parties can be tracked, the supervision system is guaranteed, thus enhancing the trust between each main body.

To sum up, blockchain helps solve the problem of inadequate protection of intellectual property rights, which would probably reinforce the brand identity of "Kechuang Bang" Company and thus enhance the confidence of its target group.

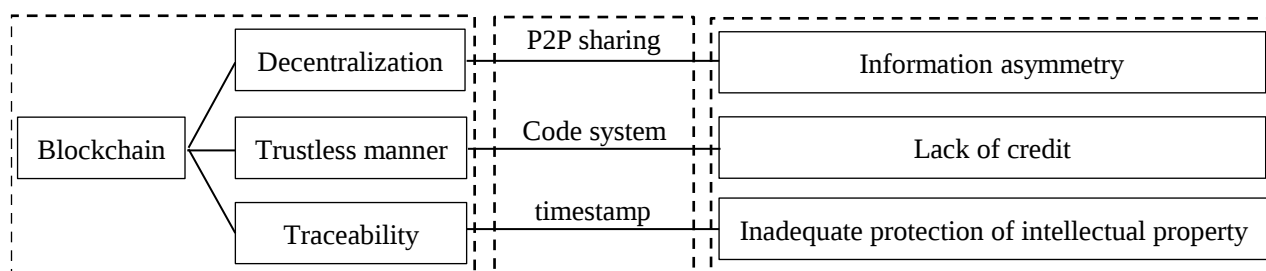


Figure 1. The docking advantages between blockchain and “Kechuang Bang” Company

4. The future development strategy of “Kechuang Bang” Company based on blockchain

4.1 SWOT analysis

4.1.1 Strengths

- (1) Seed financing is obtained at the initial stage of start-up, and the initial construction capital is guaranteed.
- (2) The present high-quality technical and expert database reaches over 8000, covering many universities and enterprises in the Yangtze River Delta.
- (3) The company independently develops a set of software tools for the whole process of technological achievements transformation with advanced operation mode.

4.1.2 Weaknesses

- (1) Financing and funds are insufficient in the later development process.
- (2) The company's service scope is still limited to the Yangtze River Delta region, with little knowledge of northern and international situations.
- (3) The profit model of pure transformation of scientific and technological achievements is simple.

4.1.3 Opportunities

- (1) Blockchain technology is still in the early stage of development among third-party platforms. As a result, the competition environment is favorable.
- (2) National policies support the commercialization of scientific and technological achievements, and a number of relevant policies have been issued in 2021.
- (3) The quality and quantity of scientific and technological innovation achievements are increasing year by year. At the same time, the demand of enterprises for technological patents is expanding, and the market demand of both sides is strong.

4.1.4 Threats

- (1) The market for the transformation of scientific and technological achievements has low entry pressure, and new competitors would probably result in increasing competition pressure.
- (2) the cost of development and maintenance of blockchain is quite high, which requires continuous investment.
- (3) Few platforms adopt blockchain technology, which fail to take full advantages of blockchain.

4.2 Suggestions

As specifically analyzed in 4.1, the company is supposed to formulate effective countermeasures, which can be shown in Table.1.

Table 1. Comparison of power load forecasting of 403 line

SO 1. Follow national guidelines. 2. Enhance target group stickiness. 3. Strengthen effective communication among all parties.	WO 1. Broaden financing channels. 2. Explore domestic and foreign markets.
ST 1. Enhance the brand influence and status. of the enterprise, 2. Actively expand market share. 3. Ensure participation of all parties throughout the entire process	WT 1. Provide various value-added professional services to expand profit channels. 2. Supervise the use of funds throughout the whole process to ensure the subsequent inflow of funds

According to the strategies reveal in Table.1, the emphasis of the company's future development should focus on the construction of nationally leading example for else third-party service platforms to follow. It can be foreseen that "Kechuang Bang" Company would establish a nationwide information chain among different service platforms with the help of blockchain. Once a platform releases the demand and broadcast it to the whole network, other service agencies can quickly react to it and recommend corresponding technology until the transaction is successfully finished, which would rapidly increase the efficiency of information communication and promote the industrialization of scientific and technological achievements.

5. Conclusion

Although "Kechuang Bang" Company has contributed hugely to the transformation of scientific and technological achievements in China, it stills encounters some potential problems: Information asymmetry, lack of credit and Inadequate protection of intellectual property rights. Blockchain, with the prominent advantage of decentralization, traceability, and tamper-proof, is introduced in the development strategy of "Kechuang Bang" Company. The analysis of compatibility between blockchain and the problems that the company has faced is made and the result shows that blockchain would effectively help the company overcome the difficulties. Suggestions are also listed to stimulate the motivation of the company's innovation and development. To construct a nationwide demonstration platform should be given priority to in the future.

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