

Analysis of Blockchain Application to Ice and Snow Sports

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Abstract: This paper presents a study combined with literature and comprehensive analysis. Starting from the status quo of ice and snow sports in China, this paper introduces blockchain technology for theoretical analysis. It is found that China's ice and snow sports have blossomed on a large scale nationwide, but the regional impact vary greatly from north to south. On the whole, it has developed rapidly, however, compared with foreign countries, it is still lagging behind. For example, the sponsorship information is opaque, there is a talent shortage for ice and snow sports, the flow of the ice and snow fund remains largely unknown, and the ice and snow industry is unevenly distributed. This paper cuts in from the perspective of sponsorship, talents, public welfare of ice and snow sports as well as the industry per se to find a feasible solution for the blockchain + ice and snow sports industry, with an aim to tackle the talent shortage, commercial sponsorship, and opaque fund in the blockchain + ice and snow sports.

Introduction

Since the successful bidding for the Beijing Winter Olympics in 2022, ice and snow sports become the fastest growing field in China, especially ice and snow sports. The government's proposal of encouraging 300 million citizens to participate in ice and snow sports will definitely further promote the comprehensive development as well as the integrated application of resources concerning China's ice and snow sports resources. Today, the development of the Internet has been catapulted to the limelight in various countries. Blockchain, as an avant-garde Internet technology, when combined with sports events, brings forth new opportunities for China's ice and snow sports. In recent years, China's ice and snow sports industry has confronted a series of problems, including the vague value definition, excessive centralization, scarce business models, and improper resource allocation, etc.

In recent years, China has attached great importance to the development and innovation of blockchain. "Blockchain" has been addressed repeatedly in the "13th Five-Year Plan" National Digitalization Plan released by the State Council. Moreover, it has also been specified in the "13th Five-Year Plan" for information technology in China released by the People's Bank of China and the "White Paper on Blockchain Technology and Application Development" released by the Ministry of Industry and Information Technology of People's Republic of China that the preliminary basic R&D and cutting-edge layout of blockchain technology should be enhanced, with a standardized roadmap for the advancement of blockchain technology proposed. The Report shows that as of the first half of 2019, the blockchain industry parks that have been established or are under construction have covered Shanghai, Hangzhou, Ningbo, and other five major regions across the nation. There are more than 20 blockchain industries. The domestic blockchain patent applications are mainly G06Q, H04L and G06F, which means that the current research hotspots lie in payment systems, digital information transmission and digital data processing.

As of the 2018 Pyeongchang Winter Olympics, China has won a total of 53 medals in Winter Olympics. In the 2018 Pyeongchang Winter Olympics, China has secured 9 medals, with 1 gold

medal, 2 silver medals and 6 bronze medals, ranking the 16th on the medal tally. The configuration of China's ice and snow sports industry prioritizes fitness and leisure, with competition & performance, venue services, sports training, and sports tourism, etc. developing in tandem. With strong demands for participation and training in ice and snow sports, there is an increasing number of competition performances, the ice and snow tourism industry is skyrocketing, the construction and operation of ice and snow venues is highly market-oriented, and there is a huge room for ice and snow supplies and the spin-offs to grow. Researches hold that the 2022 Beijing Winter Olympics has provided an impetus for the promotion of ice and snow sports in South China. Such initiative has come to fruition, with remarkable progress of ice and snow venue construction. The business model of ice and snow has taken shape, however, the cultivation ice and snow lovers remains yet to be done. The successful bidding of the Beijing Winter Olympics not only drew people's attention to snow and ice events, but also posed a positive impact on Chinese winter sports events and promoted the development of various snow and ice sports in China. In the future, blockchain can be applied to construct the value system of the Chinese ice and snow sports industry, so as to store the data of the platform in the blockchain, the immutable, traceable, maintainable of which ensure the reliable, verifiable and verifiable nature of data, which immensely streamlined the complicated business procedures. Blockchain "tokens" can provide Chinese ice athletes and their fans the access to participate in crowdfunding or sponsorship in a secure and trustworthy way. The decentralized nature of the blockchain can also cater to the individualized needs of the audience, fans and the related personnel, thereby boosting the rapid and comprehensive development of the ice and snow industry and even the sports industry by and large. It can be perceived as the future trend of blockchain application.

The application of blockchain technology has been stretched to many fields, encompassing digital finance, the Internet of Things, intelligent manufacturing, supply chain management, and digital asset trading, etc. At present, the leading countries in the world are fast-tracking the development of blockchain technology. Likewise, blockchain will be substantiated extensively in the real economy in the next few years, becoming the cornerstone in constructing digital China. The development of "trusted digitalization" will be accelerated, a new digital economic platform will be created, which will become a new target of international competition. Blockchain will also become a huge hit in the innovative and entrepreneurial endeavors in China, which will become an important means of industrial reform. Investment magnates at home and abroad have stepped onto the blockchain technology movement, with blockchain applications covering public welfare, medical care, financial banking, logistics, etc. The sports industry is the pillar industry of the future.

Blockchain + Ice and Snow Industry should be Dealt with Composure

Although the attributes of blockchain technology, such as the smart contracts, extensive participation, transparency and credibility, assisted supervision, open & sharing, process optimization, etc., is well-aligned with the sports industry, it is imperative to ponder over the feasibility of the integration featuring snow and ice project + blockchain. The recent years have seen a rapid progress of ice and snow sports in China. With the bright prospect, we must not rush for quick success blindly. The content and form regarding the ice and snow industry are fairly complex. Despite the huge amount of investment from the government and the society, ice and snow sports, constituting a part of the sports industry in China, are developed in a limited scale, the industrial structure of which is improper, and the industrial development remains extremely uneven between North and South China, compromising the overall strength of ice and snow industry in China. As a matter of fact, it is difficult to provide a sound environment for the ice and snow industry in light of the available technologies. At this stage, China continues to follow up on the blockchain policy, and the trend of blockchain has been closely monitored in local policies. According to the statistics of the State Intellectual Property Office, 3547 blockchain patents were issued in China in the first half of 2019, which has exceeded the total number of 2,345 patents issued in 2018.

Despite that blockchain technology has been constantly improved in China, it is far from being optimistic. Many problems related to security, anonymity, privacy, and technical barriers of the blockchain technology platform awaits solutions. Large-scale data breaches happen frequently. For instance, over 5,000 Facebook users' data were leaked in recent years. We must be cautious. This incident points out the difficulty to predict the risks of data breach. Besides, China has a huge population, and the consequences of data breach will be disastrous.

All in all, China's blockchain technology has made a stride in financial payments, payment protocols, data transmission protocols, digital identity authentication, and data collaboration. However, the blockchain + ice and snow industry cannot be achieved overnight, instead, it calls for synergy.

Cold Sports Become Hot Industry

Ice and Snow sponsors blockchain. Commercial sponsorship is a catalyzer for matches and one of the key factors that contributed to the rapid rise of the snow and ice sports. Commercial sponsorship improves the quality of sports events. To activate corporate sponsorship of ice and snow sports, effective marketing activities must be conducted. In recent years, sport events held in China have cooperated frequently with sponsors, despite lagging behind foreign countries. The sports organization department still manipulate sponsorship as an important means of wealth accumulation, which deprived corporates of the confidence and intensity of sponsorship, eventually affecting the quality of events. When it comes to foreign sports events, many people will mention the sponsors of top-notch events, such as NBA. The senior fans even know the socks brand that have sponsored James and Derrick Rose, etc. Sponsorship agreement issued by the supplier is fairly complex, involving many parts, with a wide range of contract terms addressing benefits of both parties, including competition prohibition agreements, finance, and renewal rights. etc. Frankly, supplier sponsorship agreement is time-consuming and labor-intensive, coupled with China's lagging sponsorship model, therefore, the cost of negotiation and implementation are ridiculously high. In this regard, blockchain technology is particularly important. Decentralization and the ultra-reliability bring opportunities for snow and ice sports to develop rapidly. The consensus mechanism for resource exchange lies in the way to reach a consensus among all bookkeeping nodes to determine the validity of a smart contract. The process is simple, making everything open and transparent, such as the renewal and termination of contract. It will overhaul the rules of the game between sponsors and suppliers, thereby improving the efficiency and quality of business sponsorship as well as snow and ice matches.

Ice and Snow Sports Talent Blockchain. Talent scouting for the ice and snow sports cannot be confined to national training and selection. According to statistics, although China and the United States have the same market volume, but the penetration rate of the ice and snow sports in the U.S. has reached 8%, whereas China has only 1%. According to a survey of potential ice and snow lovers made by Penguin Zhiku, in the Japanese and Korean markets, two countries adjacent to China, domestic skiers accounted for 9% and 6% respectively, exceeding China's 1% by a wide margin. There are many outstanding and talented ice and snow enthusiasts who cannot or do not have the opportunity to be recognized. One important factor is the lack of positioning on their own level or value. Blockchain-based sports can determine the player's ability level fairly and objectively through a traceable, tamper-resistant mechanism. Indestructibility is a vital feature of blockchain. Programmable records are not just financial transactions, instead, it contains all values. Digital identity can be recorded and encoded by blockchain technology. Blockchain-specific attributes can prevent personal data from being destroyed or stolen by hackers, which is very important for athletes and fans, because digital assets are linked with certain identity features. After establishing the identity on the blockchain, fundraising sponsorship will become a new source of income for athletes, which allows fans to invest in athletes who were not initially selected or hired with handsome salaries. If you can invest in an athlete who wants to foray into snow and ice sports, it can be done successfully through the salary and sponsorship provided by investors. As a return on the initial capital invested, successful athletes can pay fans interest in the form of dividends or

income service agreements so as to promote the maximum influx of talents into ice and snow sports. Only by making the ice and snow sports an autonomous, active, creative and participatory activity and a subjective behavior of the people, can ice and snow sports become a dynamic and promising industry. In so doing, Chinese talents will be stimulated to foray into the ice and snow industry.

Ice and Snow Public Welfare Blockchain. In addition to ice and snow sponsorship and the related talent blockchain, blockchain can be applied to the course of public welfare. Blockchain is a distributed ledger technology, to put it simply, it can be taken as "multiple parties that do not trust each other and keep accounts recorded concurrently according to a certain type of consensus", in which each party has a ledger, and the information therein is open, transparent, and tamper-resistant. For the ice and snow sports or the public welfare of this industry, the openness and transparency of blockchain can ensure that donors are clear about the flow of their funds, the traceability of which is also ensured. The tamper-resistant nature can also ensure that financial information cannot be altered without authorization. Anonymity protects the privacy of donors as well. Therefore, the ice and snow sports will be empowered tremendously if the "transmitting value" of blockchain can be applied to the related public welfare. Because everyone has a kind heart, but individual human nature is difficult to control. The commonly unknown whereabouts of the charity fund and the rampant dodgy practices would disappoint and worry the philanthropic individuals. Hence, if blockchain is applied to the public welfare of ice and snow sports, it will infuse vitality into the ice and snow sports and the industry by and large.

Ice and Snow Sports Industry Blockchain. Statistics speaking, there are currently 2132 ski resorts worldwide, a third of which are located in the Alps. Beijing won the bid host the Winter Olympics in 2015, which greatly spawned domestic ski resorts, and the total number of ski resorts reached 646 nationwide. But most ski areas are poorly equipped, with the majority being tracks for beginners. The 2019 World Blockchain Conference recently closed off in Wuzhen, Zhejiang Province. Blockchain is still in its infancy worldwide. On September 20, 2019, the Ministry of Industry and Information Technology released an official statement saying that China has become the country with the most complete industrial categories in the world. According to statistics, as of the end of 2018, the number of Chinese small and medium enterprises (SMEs) exceeded 30 million, and the number of individual industrial and commercial households exceeded 70 million. In light of the phenomenal industry volume and the wide variety of industry categories in China, why is it so difficult to invigorate the ice and snow sports industry? Why is it so hard to optimize and confirm the all-round docking of the ice and snow sports industry in one go? Aside from the three provinces in Northeast China where the industry is well developed, why can't it be developed in areas outside Northeast China? In addition to the climate, the poor production capacity and scattered property rights of SMEs, alongside with their backward management system, weak innovation & responsivity weak and shortage of asset & talent, are the realistic factors that cannot be overlooked the most. Therefore, should there be any changes or turmoil of the external environment, SMEs are often the first to bear the brunt. If blockchain is introduced into the supply chain of the snow and ice sports industry, this historical problem can be solved. Information between relevant government departments and enterprises is transparent, and there is consensus and synchronized progress between enterprises. In doing so, the management of enterprises can be centralized, with accounting distributed and equity specified clearly. Once blockchain is introduced, the ice and snow sports industry will be developed rapidly.

Summary

Although ice and snow sports have made a stride in China, they still lag behind globally. Blockchain has drawn much attention in China. It has been applied in various fields, with progress made steadfastly. The combination of blockchain technology and ice and snow sports can undoubtedly resolve some deep-rooted problems, thereby promoting the development of ice and snow sports in China. There are still many problems in blockchain. Practice and time are needed for the seamless integration of ice and snow sports and blockchain technology, in particular, a large

number of talents are required to forge ahead and blaze a new trail in the technological breakthrough and tap into the potential applications of ice and snow sports in the future.

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