# Construction and Operation of Digital Full-Link Model of Major Sports Events

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**Abstract.** Based on the precision and standardization brought by digital technology, this message adopts a global perspective to control Major sports events in a macroscopic way, and tries to solve the problems of the backward traditional operation mode of Major sports events and low management efficiency. On the basis of building a digital full link Model for Major sports events, we put forward structuring a benign digital industry ecology, protecting public information security, transforming venues to serve the people, and empowering technology to link the future is proposed.

**Keywords:** Major sports events · Digital full link · Model construction · Practice path

## 1 Introduction

The digital full link is an innovative practice of "Internet +", similar to the mixture of Internet and traditional market Taobao in the model and JD.com in the mixture of the Internet and department store model have already quietly entered everyone's daily life [1]. Inspired by this, the digital full-link Model mainly studied in this message is the Internet plus Major sports events, in order to solve the problem that the many Major sports events' digital level cannot meet the growing needs of the audience. By collecting massive data widely through the use of digital technology, conducting cloud computing-based data mining on big data, the digital full-link development of major sports events operation management achieves in-depth insight and in-depth analysis of event participants, accurately identifies user needs, and improves Event experience, maximize the social and economic benefits of event operation and management.

## 2 Concept Definition and Model Construction

### 2.1 Concept Definition of Digital Full Link

The digital full link is a newly proposed concept, and the industry has not yet clearly defined it. Therefore, the author divides it into two parts: "digitalisation" and "full link" to explore its core.

The first is digitization. On the basis of Digital assets and digital user management. Therefore, in this study, digitization refers to reshaping all aspects of products or services through new technologies, digital tools and data capabilities, reducing friction with users, and improving the operational efficiency of user value. It is a gather of resource and strategy to achieve business goals, reshaping all aspects of the large-scale event industry and ways to upgrade experience and improve operational efficiency.

The second is the full link. The full link is a kind of thinking logic in this study, which is to start from various resources such as industry, education, advanced technology, capital, infrastructure and other resources required for the holding and operation of large-scale competitions, and to develop in industrial model innovation, talent training, advanced technology, In terms of financial support, improvement of network and logistics facilities, etc., multi-dimensional empowerment of large-scale event operation and management.

Combining the above two points, the digital full link is actually the decomposition of various requirements of the overall activity with the global macro control of an overall activity, and finally forms the application and verification of the design, provision and operation management of the service content that meets the requirements, full-link thinking logic of checksum, and within this framework, it applies a series of digital technologies to process information to transform business models and provide operational management tools for new revenue and value creation opportunities.

## 2.2 Construction of Digital Full-Link Model

### 2.2.1 Digital Management and Creation of Teams

The first is office system automation. Office automation is a modern Operation, which can effectively improve the operation efficiency of Major sports events. Event operators should actively adopt automated office systems, and in the process of approval, In modules such as document center and personal office, office automation is often used to improve work efficiency and reduce the error rate.

The second is artificial intelligence analysis talents. Use artificial intelligence to classify and calculate the competencies of different types of employees, reduce the time cost of manual judgment on job competencies, and further improve job competencies and effectiveness. Analyze the daily work behaviors of high-performance personnel, and establish a behavioral database of high-performance personnel, which can greatly improve the accuracy of the competency model [2].

### 2.2.2 Digital Research and Solid Foundation

The first is to perform analysis. Including the theme of the event: using data collection statistics and calculation technology, referring to domestic policies, international trends, mainstream media trends, public preferences, Internet citizens' search records and other screening dimensions, relying on the arrangement and combination of words, setting the number of words, format, rhyme and other digital technologies to repeatedly push Perform mainstream themes; The second is personnel: event operators, partners and spectators; the third is price positioning: the positioning of event ticket price ranges is based on big data research results, with reference to factors such as local economic level,

audience identity background, local prices and operating costs for international events to determine the most suitable fare [3]. The fourth is epidemic prevention and control: Based on the background of the epidemic, event planning and operation should attach great importance to and pay close attention to the health status of all personnel, and conduct close monitoring throughout the process.

### 2.2.3   Intelligent Publicity and Accurate Portraits

The first is historical data reuse. Import the existing data in the system to form an exclusive "user portrait" "Prototype", and secondly, accurate portraits of intelligent algorithms. The data management center uses AI-based intelligent algorithm recommendation technology based on user interests to recommend accurate portraits to maximize the matching of contestants, audiences and events, and to provide more accurate historical data for the next time. Finally, the step portrait step circle selection. Based on the large database of quasi-portraits, according to the recent event status and marketing direction, circle selection in the massive database, and make a participation intention degree table, and the level of publicity at different levels is processed in stages. Competition activities. Take the Internet traffic express train to form multiple sets of publicity plans to achieve the best publicity effect [4].

### 2.2.4   Digital Deployment and Intelligent Operation

The first, surrounding cloud computing technology, big date analysis and artificial intelligence technology, we will build open and unified event operation management comprehensive supervision system, It will be deeply integrated with data management and event process, overall control of people flow, logistics, space and timeliness, and actively explore and develop new platforms, new methods and new services for operation management in the new age.

The second is to use big data mining technology to establish a more complete event operation and management information system, and build a visual, graphical and intelligent information technology service system to fully utilize and master event information collection, detection, statistical analysis, and big data mining. Data analysis, prediction and early warning and other modern information construction technical means, on the basis of effectively collecting accurate and comprehensive data information and big data analysis results, timely and correctly carry out evaluation and scientific decision-making, so as to effectively prevent and reduce the operational risk and loss caused by decision-making mistakes [5].

### 2.2.5   Analyzing Data and Value Regeneration

The first is data acquisition. Through client collection (APP, WEB, public account, enterprise WeChat, etc.), server collection (server, database, historical data import, etc.), sensor data (degree, gas, video sensor), business system collection (CRM, membership system, etc.) and third-party collection [6], data mining in the whole time and space of the event is realized, forming data assets. The second is data utilization6. Including intelligent use: through sufficient data, the various profit themes participating in the event

can obtain more accurate market research information than sampling surveys, which will play a role in precision marketing, refined management and operation; intelligent early warning: based on historical data analysis of key indicators, intelligent prediction of future data changes, and alarms for abnormal values, while intelligent diagnosis and analysis, quickly locate problems.

## 3    Digital Full Link Case Studies: Based on the Beijing Winter Olympics and the Hangzhou Asian Games

The Beijing Winter Olympics and the Hangzhou Asian Games are innovative applications of the latest digital technologies: Artificial Intelligence, 5G, cloud computing, Edge Computing, VR/AR, naked eye 3d, Digital Twins, green fuel kinetic energy and dozens of innovative digital technologies, it provides a reliable guarantee for the director group to turn artistic creation into reality, and gradually turns the digital full-link Model of Major sports events into reality, it has the following characteristics: the Beijing Winter Olympic Games uses digital full-link digital propaganda, and uses various digital media platforms such as Weibo and Tik Tok, every day, events related to the event itself, Chinese athletes winning gold, related products, and the news and science popularization of the event are frequently sent to the top search, the popularity has repeatedly reached new heights, and the public widely participated in the event, achieved the ideal effect of the participation of the whole people. Statistics show that the Beijing Winter Olympics has become the highest-rated Winter Olympics in history from the first four days. In 1400 h, the national viewership has reached 2 billion people. The Hangzhou Asian Games will directly target the construction of the "Data Asian Games" project, introduce the connotation of Liangzhu culture into the full-link "Chinese Culture Cloud" network platform, and give full play to the empowering effect of the digital economy, and gradually occupy the commanding heights of digital culture to fully To achieve the purpose of localizing the connotation of subtransportation [7].

The digital full link also drives the upgrading and technological innovation of related industries around the event. For example, Bing Dun Dun and Xue Rong Rong, who were popular on the Internet platform at the Beijing Winter Olympics, have now become the most important Winter Olympic auspicious objects. The latest statistics from the Ministry of Commerce of China showed that from January 10 to February 7, the sales of Beijing Winter Olympics licensed commemorative products increased by 21.2 times year-on-year. Products are the foundation of exhibitions, and the entire digital chain In accordance with the Taobao logistics supply chain system, Lu provides logistics, warehousing, bonded warehouses and other services for the event, and opens up a chain path of "one-one-one-one competition", so that the innovative IP of the Winter Olympics will still generate a huge industry after the Winter Olympics. Impact and value regeneration. Hangzhou Asian Games digital propaganda is accompanied by "Liangzhu" this Hangzhou unique Chinese culture. From various media reports and internet news, we find out the most suitable language expression habits of the people in the target countries, internet hot spots, "Liangzhu culture" key words [8] to ensure the authenticity of the news, effective and true to spread Hangzhou and even Chinese culture.

# 4   Operation of Digital Full-Link Model

## 4.1   Data Integration, Reshaping Ecology

Data integration is achieved through client-side collection, server collection, sensor data collection, business system collection, and third-party channel collection through the digital full link. Digital full-link innovation Designed to reshape how links are made. Optimize the investment ratio. Eliminate outdated labor and technology in updates and iterations, and streamline spending. Expand the industry ecology. Innovatively build a sticky platform where users can participate continuously, always online, and ready to use. When this platform gathers a batch of traffic, it can attract other related groups, and over time reshape the user ecological community. Both traditional and digital platforms are emerging technologies from companies such as Hikvision, H3C, Dahua, etc., such as data integration, AI algorithm model management, "cloud exhibition brain", etc. Reliable technical guarantee. Among them, "Cloud Exhibition Brain" relies on the massive data of Alibaba's B-side and Alibaba Cloud Computing as the infrastructure, uses AI to analyze historical data, and focuses on portraits for data collection. On the basis of real-time updated data, extensive publicity and accurate matching are carried out.

## 4.2   Public and Private Cloud Clusters to Protect Security

In the early stage, a cloud community was initially established through the public cloud to attract traffic. After an enterprise of a certain scale is formed, based on security considerations, small and medium-sized enterprises should adopt the public and private cloud cluster model. in the hosting location. The core attributes of public and private cloud clusters are aimed at the unique resources of small and medium-sized enterprises, and achieve effective management of data, security and services. The public-private cloud cluster can also create a very good digital platform for some elastic demand purposes, which can protect the security of private cloud data to the greatest extent, solve the problem of data security, escort the long-term development of China's smart events, and build better customer service. Haoyun focuses on solving system-level data security issues such as operating systems, databases, data warehouses, and servers, and ensures the confidentiality and integrity of sensitive data information in the process of application and dissemination. The public and private cloud clusters can control the security of data sharing, including encryption of data sharing interface API, whitelist mechanism for calling IP addresses, authentication and password binding.

## 4.3   Smart Venues, Serving the People

The digital full link will use the functions of real-time background data collection and big data analysis of smart venues to obtain more valuable data information at a lower cost and realize big data analysis. Including: audience seat information; audience identity information; text, audio and pictures authorized by the audience; relevant social media information; audience demographics and positioning; audience consumption tendencies and potential needs. Event organizers will use data mining technology to provide audiences with customized and personalized publicity programs to increase user stickiness

and bring long-term profits, as well as collect data and related user information for the sustainable use of venues after the game. At the same time, it provides services to the audience in various forms such as APP or small software, and provides complete, accurate and convenient information services for the audience. The intelligent construction around the venues will effectively promote the construction of smart cities, help to further improve the ability to serve people's livelihood, improve the utilization efficiency of existing urban resources, effectively display a variety of material and cultural exchange activities, and comprehensively enhance the follow-up use value of smart venues [9].

## 5    Conclusion

The digital full link is essentially a functional integrated network platform of a large information center. This feature also determines that the road of information technology cannot work in the bottom life, and must be planned and designed from the top to the bottom to overcome the "There are technological difficulties such as lack of planning, less standards, "emphasis on hardware and less on software," emphasis on construction and less on operation and maintenance. The systems still perform their respective functions in business management. Therefore, in the future digital full link, it is also necessary for all people's government departments to break through the horizontal and vertical obstacles of interest, and then achieve the sharing, unity, and high value of data resources [10].

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