

Development of the Sports Industry: New Opportunities and Challenges

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Abstract: In October 2014, the State Council of the People's Republic of China promulgated *Opinions on Accelerating the Development of Sports Industry and Promoting Sports Consumption*, significant changes have taken place in China's economy and society which have moved into a new stage of high-quality development. The Chinese government has raised requirements for development with higher quality, satisfying the people's new consumption concepts and the aspirations of people to live a better life and promoting the integration of digital technology, smart technology and conventional industries. Such requirements have also created a new environment and new conditions for the development of the sports industry. This paper summarizes "eight new changes" in the development environment that China's sports industry has undergone over the last five years, including development concepts, development levels, urbanization, the aging population, technology applications, strategic investors, media broadcasters and educational concepts. This paper also analyses "four new challenges" including the emergence of new sports events, the emergence of multicomponent entertainment programs, the decline of professionalism and concentration, and the constraint of total consumption time. This paper also proposes "three new ideas" to deal with such changes and challenges through continuous innovation, acceptance of new sports forms, and a better role played by the government. Making all such aspects right, the Chinese sports industry will be able to realize sustainable and rapid development allowing China to become a leader in the sports industry in the near future.

Keywords: sports industry, new opportunities, new challenges

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In October 2014, the State Council of the People's Republic of China promulgated *Opinions on Accelerating the Development of Sports Industry and Promoting Sports Consumption*, which is also called "Document No. 46" in the sports industry. Since then, the development of China's sports industry has been accelerated significantly. During the five years since the promulgation of "Document No. 46", significant changes have taken place in the environment and conditions for the development of the sports industry. China has entered a new stage of high-quality development, emphasizing the concept of innovative, coordinated, green, open and shared development to satisfy the new consumption concepts of aspirations of people to live a better life, the new path of urbanization which centers on human integration, and the integrated development of digital technology, smart technology and conventional industries. For various industries, such emphases not only symbolize a new environment and new conditions for development, but also higher development requirements.

Compared to the situation five years ago, the sports industry has undergone "eight new changes" and "four new challenges". Such changes and challenges indicate the emergence of several new business models in the development of the sports industry, many new events in sports activities, a number of new contents in sports consumption and many new carriers for people to watch sports activities. The population size of China has the new advantages in the integration of digital and smart technologies with sports. At the same time, there are also new problems and challenges which show that there will be less possibility of the repeatability between the pathway of development of China's sports industry and that of other forerunning countries and that the development of China's sports industry will follow a path in line with universal laws, while presenting the distinctive Chinese characteristics and the era characteristics.

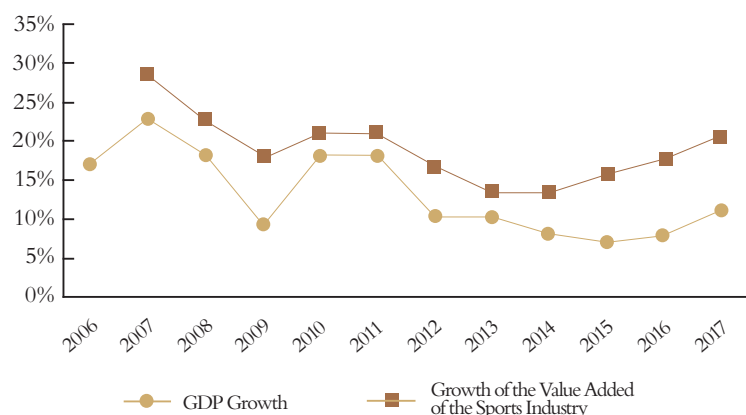
This paper will analyze the influence of such changes and challenges on the development of the sports industry and the growth of sports consumption in the coming 5 to 10 years.

"Eight New Changes" and New Development Opportunities

In recent years, the sports industry has shown faster growth than GDP. Especially during the five years since the promulgation of "Document No. 46", the gap between the two continues to widen. From 2014 to 2017, the average annual growth of the value-added by the sports industry reached 16.87percent, which was 2.4 times that of GDP over the same period (Figure 1).

However, considering a

Figure 1. The Sports Industry Growth and GDP Growth in China



Source: National Bureau of Statistics, General Administration of Sport of China

comparison with other economies and the domestic consumer demand, the sports industry of China is still relatively outdated. In 2017, the value-added by the Chinese sports industry was RMB781.1 billion, and its proportion of the GDP during this period was 0.9percent. The number of people employed in the sports industry was over 4.4 million, accounting for 1

percent of total urban employment that year (Ministry of Human Resources and Social Security, 2017; National Bureau of Statistics, et al., 2018; *people.cn*, 2018). The proportions in GDP and employment for China's sports industry still show a great gap when compared to economies with a developed sports industry (Figure 2).

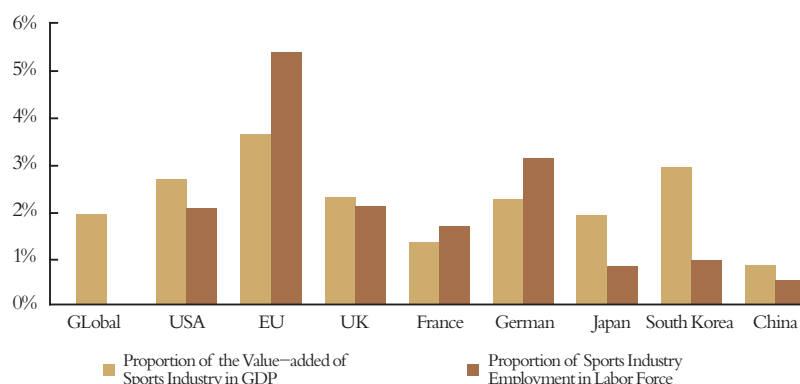
In recent years, many favorable changes have emerged in the development environment of the sports industry, which can be summarized as “eight new changes”.

New Development Philosophy: Build Consensus to Make Concerted Efforts

The new development philosophy focuses on people-centered development and emphasizes such goals as quality, green development, effectiveness and sustainability. These are the fundamental directions for the development of the sports industry. Over the past few years, new investors and enterprises have entered the sports industry after the promulgation of “Document No. 46”, wishing to gain high returns quickly by going all out and going fast. Such investors, most of whom are financial investors, without sufficient understanding and knowledge of the development laws and competition patterns of the sports industry, have no strategic planning for long-term programs and market development, and cannot provide a sustainable driving force for the long-term development of the industry.

Nowadays all the elements of society have a more comprehensive and rational understanding of the sports industry, and they have clearer, more pragmatic and longer-term goals for its development. Many investors and enterprises have recognized that the sports industry demands comprehensive planning, including the development of sports skills and habit, the expansion of stadiums and the growth of sports audience, variables that take time to develop. Indeed, investing in sports requires long-term strategies and should focus on the development of industrial chains and the ecology of consumption. Governments at all levels have also fully realized that sports have both economic and

Figure 2. International Comparison of the Proportion of Value-added and Employment in the Sports Industries of Selected Countries



Notes: (1) source of data: calculations based on various literature; (2) as the data of each country were released at different time and the period covered by these data were not the same, most of the data were chosen from 2015, with only a few chosen from 2012 or 2016; (3) there is no data regarding total global employment.

social value and need support from governments in various aspects. Only when all the elements of society make concerted efforts to promote the development of the sports industry will the development of the industry promote growth and employment, boost the national fitness program and carry forward the enterprising spirit strengthening social cohesion and encouraging people to strive for honor for the country.

New Development Level: Consumption Upgrading and Diversity

In 2020 or soon thereafter, the per capita GDP of China will reach US\$10,000. At the same time, the characteristics of the service economy will become more prominent, and the proportion of service consumption to total consumption will continue to increase. The consumption structure will expand from consumption for materials, necessities and development to consumption for comfort, health and happiness. Sports consumption will be an important part of China's evolving society.

With the improvement of income level, people's choices made in sports consumption are shifting from being random to a more professional orientation. Emphasis is being put on professional skills, equipment and competitiveness. In particular, over 400 million people born in the 1990s are growing up quickly and stepping into the society. Being more socially conscious and having more demands for professional fitness, they cannot be satisfied by running along the side of the road or doing exercises in neighborhood parks. Gyms and venues for outdoor activities and competitions are important in their life. During the "Double 11" Online Shopping Festival in 2018, the market data of RMB213.5 billion of Alibaba-backed entities indicated that the total sports consumption exceeded RMB6 billion, 3 percent of the total which was a significant increase over previous years. The 3 percent is exactly the average proportion of sports consumption at the high-income stage. There is a large demand for mid-range and high-end sports equipment, with the fastest growing demand for equipment for such activities as fishing, winter sports, cycling, camping, rock climbing and equestrian. Such sports are more "expensive" than the conventional sports, and it is more often that the group from the middle class and above as well as the young people constitute the major participants.

People-centered New Urbanization

In recent years, urbanization has been more focused on the "urbanization of people" rather than the "urbanization of GDP". The key factor of such shift is the emphasis on the idea that the "immigrant population" needs to be better integrated into cities and communities to enjoy equal rights as indigenous urban citizens. This change has had a strong positive impact on the sports industry. Experience at home and abroad indicates that such "new citizens" especially desire identity recognition and integration through an important option—sports activities.

The influence of the increase of "new citizens" on the development of the sports industry is reflected in various aspects. In China, there are 16 cities with a population of over 10 million, 88 cities with a population of over 5 million, and 251 cities with a population of over 2 million. Such large cities can support the development of a large number of sports events, especially the development

of professional sports. Large cities can not only accommodate the development of many popular projects, but also provide room for many unconventional events. In the coming few years, community sports activities and inter-city competitions will play an increasingly important role in the regional layout of the sports industry, due to the distinctive regional characteristics, a clear sense of belonging in citizens, and the commercial operation systems.

The Aging Population with Long Life Expectancy and “Empty Nest”

China has entered the population aging period. Thanks to the favorable factors in such aspects as lifestyle, social security and health services, Chinese people have a longer life expectancy which is close to the average of high-income countries. In recent years, as the generation who witnessed the implementation of the previous “One-child Policy” of family planning got to retire gradually, the proportion of aging empty-nest families is growing and will continue to increase. The process will last for twenty to thirty years. The influences of the aging population, long life expectancy and “empty nest” on the demand for sports consumption have been reflected in various aspects. According to some researches, among six types of families, only empty-nest families rank sports activities as their top priority when planning activities for their leisure time, which means that health, entertainment, social life and the sense of belonging provided by sports meet the diversified needs of the elderly in empty-nest families, and attract a large number of seniors. Nowadays, seniors retire early and live a long life. Not only can they take up a sport after retirement, they can be active sports participants and viewers in the coming one or two decades. Therefore, they are a group of important consumers in the sports industry.^①

Application of New Technologies and New Business Forms of Sports

China’s advanced internet application technologies and a huge base of users support various new business forms, such as Internet + sports, digital + sports and AI + sports. Such applications featuring extremely significant economies of scale are huge growth points for the Chinese sports industry. In particular, there are more than 1 billion Internet users in China who support a market far larger than that of any other country. In China, a single popular sport event can have an audience consisting of tens of millions or even hundreds of millions of viewers. The Chinese venues of some international competitions have had the highest audience ratings in the world. Some foreign competitions which don’t receive high attention in their own country, once “followed” by Chinese spectators, may set new records for viewership. On May 18, 2019, in a La Liga game, Espanyol de Barcelona defeated Real Sociedad at 2-0 at home and won the qualification for the Europa League in the next season. Chinese player Wu Lei scored 1 goal for Espanyol in this game. After the game, fans ran onto the venue and threw Wu Lei high up in the air. This video has been played more than 17 million times in China,

① Yang Yue and Wang Rui, *Study on the latest changes in the background of sports consumption and their influence on policies*, see *Sports consumption: Development trends and policy orientations*, edited by Jiang Xiaojuan, to be published by CITIC Press Group.

more plays than any other video about Espanyol in the past.

Digital technologies and smart technologies have been widely applied in many fields of sports. In the sports fitness service industry, digital sensing technology can sense the biological information of human movements in real time, and provide more scientific law of energy consumption by the human body in sports and recommendations for training based on a large amount of data. Consumers can exercise on small home fitness equipment and receive scientific guidance online. Online sports service communities have created more types of sports fitness services. At present, there are over one thousand sports fitness service apps in seven categories, and their community functions continue to provide their users with customized professional services. In intelligent stadiums and arenas, spectators can gain better experiences before, during and after the games. Digital sports communications can make use of such technologies as information and data mining to collect information about games inside and outside the venues for online broadcast platforms, and encourage interactions between people inside and outside the venues to improve the engagement of and entertainment for users. The application of such technologies has made it much more convenient for consumers to participate in and watch sports activities and has greatly boosted participation and entertainment for consumers.

New Strategic Investors: Industrial Ecology and Sustainable Development

Shortly after the promulgation of “Document No. 46”, two types of investors flocked into the sports industry wishing to realize the appreciation of their investment. One type is the ‘invest and sell’ it off in a short period of time through market operations. For this type of investors, once finding recession in the industry and difficulty in achieving IPO with an unclear entry and exit mechanism, they are likely to quit the industry. The second type is the large strategic investors, like China Development Bank, China International Capital Corporation Limited, China Everbright Group and Chinese Culture Group, which have flocked into the sports industry over the past years. Other companies, with large platforms, have also entered the sports industry. Such investors, with long-term development goals and large-scale investment, focus on the sustained development of the industrial chain and consumption ecology, and explore the market from multiple aspects. Following the principle of commercial sustainability, they seek for a steady and sustainable development. The increase of strategic investors is a clear signal, showing that the sports industry is intensive cultivation and will produce long-term development, growth, and profits.^①

New Broadcasters and Market Development at Multiple Levels

In the market revenues of professional sports, the largest proportion is the income from broadcasting rights, which is also an important source of income for other sports competitions, like

^① For more analyses of the entry of strategic investors in the sports industry, please refer to Xin Jie, *Policy demand for major strategic investors in the sports industry*, see Sports consumption: *Development trends and policy orientations*, edited by Jiang Xiaojuan, to be published by CITIC Press Group.

marathons. Although there are more than 1,000 top-class professional competitions, only a few hundreds of them have been the subject of commercial broadcasting models over the years. Recently, large Chinese video platforms have turned their attention to competition development, including the increase competitions and existing competitions. Using data-mining technology and AI technology, video platforms and enterprises have the means, through innovation, to attract more viewers to their broadcast programs. Such enterprises are capable of connecting online and offline resources, utilizing various IPs and audience resources, and creating multiple types of new experiences for consumers.

Taking university sports as an example, several thousand high-level student teams exist and involve more than 50 million teachers, students and parents. Historically, in order to reduce the costs, teams were gathered together in one place to play games. Both spectators at the venues and the local broadcast audiences were seriously restricted and little commercial value could be produced. Now every video platform is optimistic about the economic potential of this market. For example, as this year's China University Basketball Association (CUBA) applies the home-and-away system, the broadcasting platform creates a home court atmosphere through various means. In the Regional Finals and the Finals, not only were the stadiums full of spectators, the broadcast originated live from broadcasting studios arranged for each game, in which students from each university could comment on their own games. During the finals of the Northeast Region, over 300,000 supporters "liked" their own teams on the platform. All in all, with new broadcasters and broadcasting technologies, more competitions will have a real value for commercial development.

New Educational Concept: To Develop Sports Consumption Skills and Habits^①

In the past, the educational functions and public non-profit nature of school sports were valued. During the past few years, people have increasingly realized that physical education can also boost sports consumption. First, campus sports are an integral part of sports consumption. China's 300 million students, 510,000 schools, 650,000 venues and school competitions can help increase sports consumption. Second, physical education in schools is the basic condition for many kinds of sports consumption. Participation-based sports consumption requires a certain level of sports skill, and spectator-based consumption also requires some knowledge of the sports being played. Physical education in schools equips teenagers with sports skills, lays a solid foundation for life-long exercise, and promotes the development of sports consumption habits to encourages them to be sports practitioners and viewers in the future. Third, after-school sports for teenagers are also an important part of sports consumption. According to international experience, with the improvement of income level and parents' level of education, children are more likely to join after-school sports clubs, which also indicates there is growth space in the after-school sports consumption of the teenagers in China.

^① Liu Bo, et al., *Study on sports consumption of the young people*, see *Sports consumption: Development trends and policy orientations*, edited by Jiang Xiaojuan, to be published by CITIC Press Group.

Table 1 The Characteristics and Growth Space of Sports Consumption in the New Development Stage

New Development Stage	Influence on Sports Consumption
New development philosophy: People-centered, high-quality development	Sports consumption satisfies the people's aspiration for a better life
New development level: Diversified and upgraded consumption	Sports consumption facilitates health and happiness
New urbanization: Centered on the citizenization of the immigrant population	Sports mark identities, enhancing the sense of identity and cohesion
Aging population with new characteristics: Fast + long life expectancy + empty nest	Sports facilitate fitness, entertainment, social activities and the sense of belonging
Application of new technologies: the rapid development of digital and smart technologies	New technologies are widely applied in all aspects of sports
New strategic investors: development of industrial ecology through long-term efforts	Intensive and meticulous efforts are made in each field of sports to develop consumer groups
New broadcast carriers: New broadcasting carriers and models	More sports activities have value for commercial development
New educational concepts: Life-long skills, work with good health and integration into society	Sports skills and habits are developed, and sports consumption by teenagers is increased

“Four New Challenges”: Empowerment and Competition

The development of the sports industry is faced with some long-lasting problems and challenges. This paper focuses on the analysis of four challenges that have appeared in recent years and will continue to exist or even become greater in the future. All of them are mainly or partly related to the innovation of technologies and business models. Internet and digital technologies are created not only for sports. While empowering the sports industry, such technologies will also help create a variety of new sports entertainment forms which will be in fierce competition with the conventional sports industry.

New Sports Events Competing for Consumers of Conventional Sports

During the past decade, the e-sports industry has boomed as they have adopted and used internet, digital and smart technologies to their advantage. E-sports have characteristics similar to conventional sports, such as unified competition rules, competitive games, professional teams, spectators at the venue and an audience watching through broadcasting outlets. There are also some completely different characteristics, mainly aspects such as a lack of physical movements in particular and competitions held in digital environments created through various software and hardware technologies.

At present, e-sports events have a huge base of participants and a rapidly growing global audience which often exceeds those of many conventional sports competitions. The e-sports industry of China possesses great potential for development. It was estimated that in 2018, the output value of China's e-sports industry reached RMB8.48 billion and the users of this industry exceeded 300 million. Such users are expected to increase to 350 million in 2020 (Penguin Intelligence, 2018). Both the size of market and the number of users are much larger than many conventional sports.

Such new types of sports events obviously impact conventional sports. In 2017, a group of young people aged 16 to 25 in China spent 33 percent of their free time on e-sports and other online game activities on average, reducing and replacing time available for conventional sports activities. There is a clear substitution relationship. According to some experts, conventional sports will be faced with a significantly aging spectator base in 20 years. Now, the average age of US viewers of sports TV shows is on the rise.

The e-sports industry features high scientific and technological content. Due to its large base of participants and high exposure, international high-tech leaders such as Google and Microsoft are focusing on the development of artificial intelligence applied to e-sports events. In addition to AI technologies, other cutting-edge technologies, such as blockchain, big data, quantum communication, new visualization and motion-sensing, have been chosen and primarily applied by such enterprises to the e-sports industry. Thanks to the high participation rate and high attention attracted by e-sports, many conventional sports organizations attach great importance to this industry. The four major sports leagues in North America, represented by the NBA, have invested directly to establish their own entries in the e-sports industry, hoping to keep up with the times and attract the audience.

In recent years, the development of smart sports has accelerated, and it has become an important new type of sports. Smart sports use intelligent equipment to break through the limits of space and time in conventional fitness exercises and achieve the intelligent development of conventional sports and the realization of online games. Remaining within doors, participants can experience mountain cycling, skiing, golf and other sports which set high requirements for venues in a small indoor space. For example, through the combination of people, an intelligent cycling platform and intelligent cycling software, intelligent cycling allows people to ride on classic cycling tracks with any rider at any time and place. Smart sports need the integration of advanced technologies, such as virtual reality, the Internet of Things, cloud computing and big data. They integrate the equipment with data, the internet, intelligent technologies and entertainment functions, and create ranks through quantifiable statistics to develop personal sports social activities.

There are mature markets for smart sports in foreign countries. Peloton company, founded in 2012, started their business with intelligent spinning bikes. Today it not only produces exercise equipment and supporting tablets and software, but also makes video streaming contents for its users and has established its own network of retail experience stores, realizing the “vertical integration” of products and services from production to delivery. Peloton is popular for two reasons. First, it creates high-quality streaming media contents for subscription. Substantial investment in content production improves user retention, interaction and enjoyment. Second, there are excellent coaches on its platform. In the US, people doing exercises fancy “star coaches”. Connecting these coaches to home scenarios through internet-based devices helps make fitness exercise at home a trend and the main driver of growth in the market. Interestingly, this business model may pose a potential challenge to fitness clubs. At present, Peloton has negotiated with Goldman Sachs and Morgan Stanley concerning an IPO. Its market value was estimated to exceed US\$8 billion at the time of the IPO, making it the

company with the highest estimated value in the field of home fitness.

Smart sports are also starting to grow in China. The First National Smart Sports Games was held on December 29th, 2018, incorporating 18 events such as smart cycling, smart motor racing, smart golf, smart shooting, smart skiing, smart fitness, smart running and smart football. A total of 106 competitions were organized in more than 100 Chinese cities, attracting 2.3 million people. 1,400 players reached the Finals after 6 million preliminaries and play-offs. Generally speaking, smart sports are still at the beginning stage, but developing quickly with great potential.

New Multi-Element Entertainment Programs Competing for Sports Consumers

Internet and digital technologies are widely applied in many fields, and entertainment forms that compete with sports activities can be found everywhere. Various TV and internet variety shows and movies, digital music and online games applied with the latest technology will compete for consumers of sports activities. Taking online variety shows as an example, in recent years, the number, total episodes and total duration of such shows have been growing rapidly. According to statistics, from October 2017 to October 2018, there were 385 online variety shows, including a total of 10,912 episodes with a total duration of 237,400 minutes, broadcast on 21 online platforms including Tencent, Youku and Mango TV. The number of shows, the total number of episodes, and the total duration increased by 95 percent, 217 percent and 121 percent year-on-year respectively (Supervision and Management Center of National Radio and Television Administration, 2018). With so many new entertainment options, consumers may not want to spend more time on conventional sports. Revenue distributions provide another perspective on usership. In 2017, the output of China's pan-entertainment industry was about RMB548.4 billion; the full-scale output of the sports competition performance industry was RMB23.14 billion. Wolf Warrior 2 grossed RMB5.683 billion from the box office, while the Chinese Super League earned only RMB1.48 billion.

With modern technologies, the sports competition industry shares a lot of similarities with many entertainment programs. In fact, professional sports competitions are also called the "sports competition performance industry". So the competition between the two industries is universal and fierce. Table 2 lists the high similarity between sports competitions and concerts.

Table 2 High Similarity between Sports Competition Performances and Concerts

Sports Competition Performances		Concerts	
Spatial clustering	Venues	Spatial clustering	Venues
Paid viewing	Tickets	Paid viewing	Tickets
Core element	Stars	Core element	Stars
Characteristics of the audience	Fans	Characteristics of the audience	Fans
Appeal of practitioners	Revenue	Appeal of practitioners	Revenue
Brand value	Cross-sector	Brand value	Cross-sector
Broadcasting revenue	Data traffic	Broadcasting revenue	Data traffic

New competitive business models continue to emerge. For example, on May 9, 2018, a “movie + internet” mobile App, Smart Cinema V1.0, was launched. Their business model allows the user to watch movies at any time and place with mobile cinema software systems carried by mobile terminals, such as mobile phones and tablets, or other devices which can be controlled through these mobile terminals as the projection devices. Users pay separately for each movie watched. One year after the launch, the total viewers on Smart Cinema reached 2 million, contributing a revenue of RMB50 million. The company with the App has made plans to fully cover all mobile users in the coming few years. In addition, the business model mentioned above, in which equipment for fitness exercise at home is combined with professional guidance through the internet, may pose a potential challenge to fitness clubs.

Decrease of Professionalism and Concentration: the Influence of Cross-sector Broadcasting Platforms

Due to the information overload in cyberspace, the appeal has become the focus of competition in the digital age. Many cross-sector entertainment models have been created to attract more consumers to online platforms. If the platforms are able to gather large numbers of users, they can develop many commercial functions and build a complete commercial ecosystem. With the application of big data, fans can be provided with tremendous derived commercial value. Through exploration and analysis, these platforms can provide potential consumers with comprehensive consumption information, thus developing endless new business systems and new business models.

In such business models, fans are attracted by applying cross-sector integration in which various entertainment elements co-exist. This has become a popular option, leading to more entertaining sports. The platforms spare no efforts to make their programs funnier and entertaining to attract the attention of non-core sports fans and even non-sports enthusiasts. Yet, the competitiveness, professionalism and a sense of awe arising from sports activities are declining accordingly. Even when broadcasting professional sports competitions, online platforms will add many non-sports elements, including cheerleaders with high attractiveness, the past and the present of star athletes, non-professional but personalized online anchors, stories of senior fans, and interesting stories inside and outside the stadiums.

The diversity and competitiveness of online platforms are also reflected in their long-tail effect. If consumers can only watch games at the venues, the number of competitions held in each area is limited, thus restricting the number of competitions broadcasted via TV. Consumers who like “niche” and “unpopular” competitions have nowhere to watch them. However, in cyberspace, there are almost unlimited videos that can be played on demand, and the cost is very low, so personal needs can be satisfied. For example, in China there are only several thousand people who want to watch the Indian Super Cup, and it is impossible for them to watch it at the stadium or through TV, but online platforms can provide them with broadcasting services on demand. For companies operating these platforms, although the consumption of such “niche” demand is rather small, there is a wide range of such needs, so the market share gathered together by such needs is comparable to or even larger than that of a few

popular broadcasting products. It seems that a small number of popular broadcasting products form the main body and such “niche” demand is a long tail of the body. Undoubtedly, these platforms make it easier for consumers to choose sports competitions at will. However, when the total viewing time spent by consumers for sports competitions is limited, diversified options will divert the audience, reducing the audience for mainstream competitions.

In recent years, variety shows focusing on sports elements have been a new rising force in China, which attract non-core sports fans, and are becoming more popular than most of top-level professional sports competitions. For example, in “Beat the Champions”, a large-scale inspirational sports variety show launched by ZJTV at the time of Rio 2016 Summer Olympics, Yao Ming was invited to work as the sports consultant; Li Na, David Beckham, Michael Jordan, Roberto Baggio and other stars were invited as guests; Jia Nailiang and Ella were the fixed captains of the pop star teams and led real competitions with sports stars. The new model and the lineup consisting of superstars were extremely popular. In addition, many sports athletes with whom the public are familiar (including Tian Liang, Yang Wei, Lin Dan, Li Na, Sun Yang, Su Bingtian and Zhang Jike) have participated in variety shows for many times, and become the most popular sports stars. Table 3 lists a number of sports-based variety shows developed during the past few years.

Table 3 Sports-based Variety Shows

Year	Sports Events	Sports-based Variety Shows	Representative Shows (Selected)
2013		The first year that sports-based reality shows and variety shows started	Celebrity Splash Stars in Danger: The High Dive
2016	2016 Rio Olympic Games UEFA European Football Championship	Entertainment-oriented development of sports 20 sports-based variety shows	Beat the Champions Super Successor The Players Race the World The Amazing Race China season 3
2018	The 2018 Russia FIFA World Cup	Efforts of internet giants in the sports industry derived from IP of sports events	Voice for the Game This is World Ball Funny Eleven Artificial Intelligence Lottery Jianhong Show Mars World Cup

Note: source of data: http://sports.ifeng.com/a/20180830/59997262_0.shtml

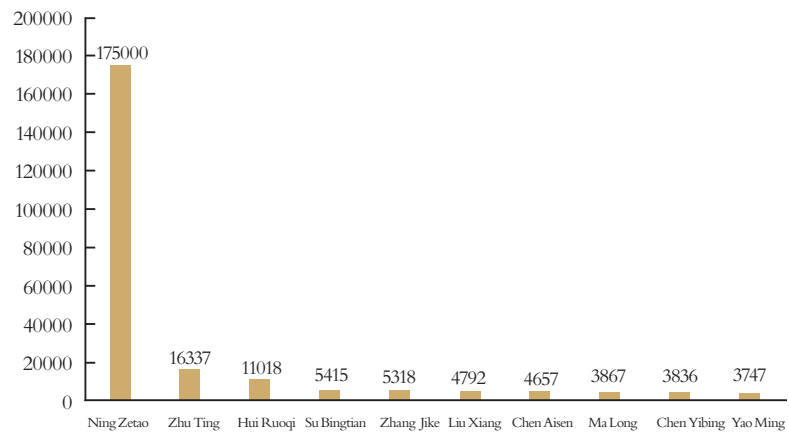
Such variety shows particularly help sports stars to grow their fan base. Once these athletes have numerous fans, they can attract data traffic online, which can be directly converted into commercial value and boost their bargaining rights in business negotiations. As a result, these star athletes started to demand a larger share of the benefits. This will conflict with our traditional athlete management system and the images of top athletes among the public and will be influenced and reshaped by the various business relationships in the sports industry.

This new business model may also lead to the phenomenon of “winners take all” and the problem of a widening income gap. In the sports industry, creativity and talent are the scarcest, and the “supply” produced by creativity and talent is delivered to every corner of the world through the internet. A huge market share is therefore gained with a low cost. Meanwhile, as the viewing cost is very low or even free, consumers, no matter poor

or rich, can watch the highest level of competitions at their own will. Therefore, sports stars with a special talent can take all in the market and gain enormous income, ascending to the top levels of income in society. Such a situation will result in economic and social impacts as online sports products are developed and grow in popularity.

Figure 3 shows the sports star popularity index ranking as of June 10, 2019. The popularity of sports stars is influenced by both their sports performances and exposure.

Figure 3. Sports Star Popularity Index Ranking



Note: source of data: <https://123fans.cn/rank.php?c=7>.

The Limits of Total Consumption Time and Stagnation of Entertainment Consumption

For experience-based consumption which includes sports participation and viewing, the total consumption time has become a hard constraint.

From the perspective of the supply side, cyberspace contains and provides a large number of entertainment services which are constantly increasing. The diversified consumer demand is also expanding and seems to be developing without boundaries. However, the development of such industries is expanding against an extremely hard constraint: time. Time cannot be stored, created, borrowed or copied, and the scarcity of time is more pronounced than any other resources. The market expansion of physical products is mainly restricted by purchasing power. Consumers with sufficient financial resources can buy products without spending much time on the act of consumption. A rich man can possess dozens of luxury cars at the same time and own several villas around the world. However, the consumption of services in cyberspace is based on experience, and consumers must spend their time for this. It is difficult for a consumer to participate in two games or watch two movies at the same time, so the competition among such services focuses on time instead of wealth. Such competition is not only fierce and cruel, but also mutually exclusive. It is not limited to the same type of consumption. Every kind of consumption that costs time is an opponent. For instance, there was once a famous saying in the game industry that

“Competing for business with peers doesn’t make any sense, we should compete for business with the sports industry and the entertainment industry” (Jiang Xiaojuan, 2018).

After years of rapid growth, the average daily time spent with the internet per capita is now increasing smoothly and steadily in China. As China has 1 billion internet users, even if each user spends five hours on the internet every day, the total time spent by all users in China on the internet each year is about 1,825 billion hours. However, the supply of services has been maintaining an increasing trend, so it can be imagined that how fierce the competition is. The author found a surprising result in the quantitative analysis on the number of spectators of the Chinese Super League: in cities with high per capita income, the proportion of people watching sports competitions is lower than those cities with lower per capita income. One possible explanation is that there are more diversified consumption options in such high-income cities, which preempt the time for sports consumption. All in all, in the age of experience-based consumption, time has become the scarcest resource. Wealth can be accumulated to grow year by year, but time is always a constant.

Persistence and Response: Sports-oriented Development and Adaptation to the New Era

Persistence of Conventional Sports Events: Innovation and Industrialized Development are Effective Means

All the problems and challenges described in the previous section emerge in the commercial operation and industrialized development of sports. There are skeptics arguing that commercial operation will undermine the professionalism, public benefits and cultural value of sports and that a focus on high attendance and economic benefits will derail the development of sports.

However, facts show that commercial operation and industrialized applications greatly boost the development of sports. In the last half century, with the wide popularization of education, the middle class has grown to be a major part of the population in many countries. They seek both physical fitness and mental pleasure in sports consumption, and also desire reductions in stress and increases in psychological satisfaction and social interaction. A large variety of sports products and services in multiple forms, from popular sports such as running and physical exercises to “elegant” and “costly” sports like figure skating and golf, have attracted the attention of many consumers. Now, after platform investors have flocked into the sports industry, the costs of many sports services have been greatly reduced which weakens the income constraint in sports consumption and allows more people to participate. As the demand is so universal, diversified, multi-layered and variable, only through commercial operation, can the constant innovation be made to support market expansion and prosperity.

Among the 50 most innovative companies in the world ranked by *Fast Company* of the USA in 2016, National Football League (NFL) ranked 15th. The top 3 on the list were Apple, Facebook and Google. The

reviewers believed that it was not easy for NFL to maintain its attraction in the face of challenges from so many new forms of entertainment. On the list of 2018, NBA ranked 10th and is the earliest one among the professional sports leagues to establish an e-sports system. On the list of 2019, Peloton, the super-giant in the physical fitness sector, ranked 27th. Peloton has benefited from the business models of many entertainment apps and focused on winning over the fragmented time of consumers. It releases training clips of many star coaches through short videos and live streaming for consumers who need short-period fitness exercises or even leisure and entertainment at any time. It also applies big data and AI analyses to identify the programs, coaches and entertainment elements consumers are interested in and pushes related contents to retain consumers. In short, in this era of changeable technologies, diversified demand and fierce competitions, the conventional sports industry still has strong appeal and competitiveness. But, if it wants to gain a firm foothold in this new era and continue to develop, it must apply continuous innovations to meet the demands of the players in the market.

The persistence and development of conventional sports require continuous innovation in technologies and business models, such as platforms that have launched online accounts for accruing “national fitness program points”. If consumers spend money at specified places, points will be returned to their accounts based on a certain percentage of the money they have spent. For example, AliSports utilizing the cloud platform of Alibaba has established a sports bank, and converts sports data into “calorie coins” which are equal to rights accumulated by users through doing exercises and training. Users can use the coins earned in exchange for goods (physical products, coupons, tickets of sporting events, etc.). From August 8, 2017 to August 8, 2018, users of Alisports bank increased to 50 million. Every day, nearly 6 million users are using the “sports bank” to record their sports data and manage their sports behaviors, which greatly motivates their enthusiasm for fitness exercises.

Innovations in technologies and business models are applied in almost all conventional sports. Gym + Smart Technology attracts consumers through physical venues + app. Consumers enter the gyms through face recognition technology, use smart bracelets to open lockers, collect data regarding their bodies through smart devices and upload the data to the cloud, and buy fitness courses and post social updates on app. Such a model creates more interactive, sharing and independent consumption scenarios and platforms for conventional fitness activities. Moreover, the construction of smart venues for professional competitions has greatly enhanced the experience of spectators. The smart venues will provide such “hard services” as full coverage of WiFi and HD replay, and “soft services”, like personalized catering and sales of franchised products. Short videos are also a new trend for viewing sports competitions. Except a few loyal sports fans, most consumers do not watch the whole competition. Instead, they use the fragmented time to glance over the reports or watch highlights. In the broadcasting of marathon and fishing competitions, the smart system can provide customized contents for each participant, which can be viewed by families and friends online both during and after the race, making the participation in the event much more interesting. The online sports community is also a communication form widely used in conventional sports. Especially in outdoor sports like fitness, rock climbing, skiing and hiking, sports enterprises and enthusiasts organize online

communities, invite online friends by pushing information and posts, exchange and communicate sports resources and activity information within their own communities.

As with other industries, the industrialized and commercial development of sports can lead to some negative phenomena. There are indeed many low-quality products and services in the sports market; statements and behaviors reflecting wrong values do appear sometimes; match-fixing, illegal gambling and bad call in professional sports resurge repeatedly. However, in general, the industrialized and market-based development does not lead sports development to a wrong path, or lower the competition levels. Aspiration, enterprising spirit, diligence and team spirit are still the mainstream values. The social image of sports still represents positive energy and hard work.

The dynamism demonstrated by the market economy in other industries also contributes to creativity, heterogeneity and diversity in the sports industry. Through market players' endeavor for innovation, both conventional sports and new sports events are prospering, and the sports industry has achieved an unprecedented success.

Acceptance of Sports Forms Matching Mainstream Social Formations

In previous sections, the author analyzed many new sports forms which depend on new technologies and many variety shows featuring sports elements. This trend will continue to exist and develop, and is likely to occupy more leisure time, especially among younger consumers. Such changes will continue because they are in line with current and future technologies and mainstream social scenarios. Especially for the younger generation who grow up with the internet, cyberspace has long been the main place for their work, life, entertainment and social activities. Naturally, they look to the internet for opportunities to show their intelligence and gain spiritual pleasure from the internet. They hope to receive the services which meet their needs just by one click. They prefer experience-based challenging intellectual activities. Therefore, e-sports and smart sports match their consumption demand perfectly, and will inevitably grow into an important sports sector. Variety shows contain various entertainment elements, which are not that professional, but really diversified. In addition, such shows provide participants with a strong sense of involvement, thus satisfying the curiosity and ambition of different audiences. Therefore, they can gain large groups of loyal fans among the young people. Conventional sports need to be integrated with new carriers as much as possible, such as promoting more offline sports activities through various types of sports star shows and using points gained through offline sports activities to exchange for access to sports variety shows. Besides, various new sports and star variety shows must be treated in an open and acceptance manner to drive the joint development and positive interactions of conventional and new sports activities through sustained innovation of business models, which provides the young generation of the internet era with more varied sports and entertainment scenarios.

Adaptation to New Scenarios: The Government to Play a Better Role

Now that the industrialized development and market-based operation have been proposed, is it

necessary for the government to provide special support to the sports industry?

It is rational for the government to support the sports industry. In addition to creating economic value, the sports industry also creates social and cultural value in many aspects. Sports can improve the physical and mental health of the people. Doing exercises and watching sports games can not only strengthen the body, but also relieve stress and create such spiritual feelings as pleasure, relaxation, excitement, expectation and satisfaction. Physical and mental health can not only improve productivity and reduce medical expenses, but also improve the quality of life. Professional sports clubs can enhance the locals' sense of honor and belonging and inspire more young people to engage in sports, through which they can strengthen their physiques and skills and become better team players. Good results in sports competitions can inspire people's patriotism and their enterprising spirit. Thanks to all these social functions, sports consumption contributes to GDP, healthy lifestyles, social cohesion and the enterprising spirit. Therefore, it is rational for the government to fully support the part concerning prominent public benefits in the sports industry, such as the construction of public sports facilities, implementation of national fitness programs and support of talent training.

In the past five years, the central and local governments have promulgated many policies to support and encourage the development of the sports industry. Now implementing and improving these policies are a top priority. Based on the situation, the targeted policies should be made according to the new demand raised amid the new development and changes. The paper emphasizes the following aspects: first, policies related to the new urban development strategies, which means guiding new citizens to get more involved in sports activities and sports viewing through widely beneficial measures, such as building public sports venues in areas where new citizens live and reserving an appropriate portion of places for new citizens in various sports activities and fan associations of professional sports clubs; second, policies related to aging population and "empty nest" people, which means forming fitness organizations for the seniors in our communities and organizing sports activities, such as open-air fitness dancing, aerobics and small sports competitions; third, policies related to the entry of major strategic investors into the sports industry, for example, the reform of the new project review and approval system, streamlining of standards and procedures, innovation of review and approval modes, and improvement of laws and regulations; fourth, policies related to teenager sports, including enriching physical education outlines for primary and secondary schools and introducing the "+ X" mechanism. In addition to compulsory subjects, the mechanism tests the teenagers in the X subjects chosen by themselves, giving play to their own sports interests and talent, enhancing their sports skills, and improving their hobbies and awareness in sports to develop the next generation of participants and viewers of sports consumption. The teenager sports skill level system should be implemented comprehensively. While individual sports associations are accelerating their work progress, local sports administration are encouraged to pilot the system and promote it at an appropriate time to inspire more teenagers to improve their sports skills. For example, driven by the *Mini-Basketball Rules and Classification System of China's Mini-Basketball Players*, the Chinese Basketball Association has organized mini-basketball leagues, which have attracted a lot

of little basketball players. Moreover, by purchasing social services, market-oriented teenager sports clubs need to be introduced into communities to provide opportunities of learning and training on various sports skills.^①

The government also needs to strengthen macro guidance and market supervision. In the past, the planning system had a strong restraint mechanism, and the standards of each aspect of the sports industry could be controlled generally. During the reform, the constraint of the original system has been weakened; the market discipline fails to be effective; and relevant laws and regulations are not adequate. As a result, there are many problems in market players' concept of the rule of law, contract spirit, business philosophy and corporate culture. Therefore, violations of professional ethics and even laws and disciplines often appear in the development of the sports industry. Responsibility shall never be neglected during the decentralization of government or in industrialized development. Various measures are needed to promote the development of professional ethics and a sports culture. The government also needs to encourage industrial associations to play a bigger role. In the sports industry, especially in the competition, fitness, training and physical sports sector, the requirements for such industrial "public goods" as rules, standards, classifications and certifications are the most common. After the government changes its functions, industrial organizations need to play an effective role. Strengthening the social responsibility awareness of the whole industry is also the duty of industrial organizations. Since 2011, the Union of European Football Associations (UEFA) has released several editions of the UEFA Football and Social Responsibility Report, which evaluates the performance of its various member associations and football clubs in fulfilling their social responsibilities. The report plays a clear leading role among clubs, and has been highly praised in society, which can be a good reference.

Currently, for new sports events, industrial services and management need to be improved. Here the paper intends to highlight two new national sports associations: China E-sports Association and China Smart Sports Association. As e-sports and smart sports have been widely recognized as sports events, a national unified association should be established to guide and strengthen the industrial management and coordinate the behaviors of all parts of the two industries. The two associations should be established as soon as possible and play a leading and coordinating role to support the sound development of both industries. The basic functions of the associations should include: to establish a competition league to regulate the behaviors of market players and develop the ecology for win-win cooperation; regulate the training and management of athletes to be in line with the player management methods of conventional sports, enable the players to observe the same disciplines and enjoy the same rights; take multiple measures to prevent adolescent addiction problems and make positive and effective efforts regarding such aspects as the minors' access to the internet, technical measures of the enterprises, the development of public awareness, and the joint efforts of society;

^① For more policy suggestions, please refer to Wang Xueli, et al. *Study on sports industry policies related to sports consumption*; Zheng Fang, et al., *Study on current implementation of policies to promote sports consumption and countermeasures*; see *Sports consumption: Development trends and policy orientations*, edited by Jiang Xiaojuan, to be published by CITIC Press Group.

provide public services to the industry, train relevant personnel, set up an examination system, specify professional qualifications, and prepare competition IP management methods.

Conclusion

The development of the sports industry has its own regular trends, and also relies heavily on human efforts. “Eight new changes” indicate huge potentials and favorable conditions for the supply side of the sports industry and the demand side of sports consumption, while “four new challenges” show the competition and challenges faced by the sports industry. The opportunities and challenges faced by the development of the sports industry should be treated in an in-depth and comprehensive manner, with constant innovation in technologies and business models. The government needs to increase support, deepen reforms and expand the opening-up. The combination of such favorable factors will definitely boost the sustained and rapid development of the sports industry, and make China a leading nation in sports industry in the coming years.

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