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## INDUSTRY OVERVIEW

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*The information and statistics set out in this section and other sections of this Document were extracted from the report prepared by Frost & Sullivan, which was commissioned by us, and from various official government publications and other publicly available publications. We engaged Frost & Sullivan to prepare the Frost & Sullivan Report, an independent industry report, in connection with the [REDACTED]. The information from official government sources has not been independently verified by us, the Sole Sponsor, the [REDACTED], the [REDACTED], the [REDACTED], the [REDACTED] and the [REDACTED], any of their respective directors and advisors, or any other persons or parties involved in the [REDACTED], and no representation is given as to its accuracy.*

*Accordingly, you should not place undue reliance on such information. For discussions of risks relating to our industry, please see “Risk Factors — Risks Relating to Our Business and Industry.”*

### SOURCE OF INFORMATION

We have commissioned Frost & Sullivan to conduct market research and prepare a report on online game market in the globe, and particularly the PRC in relation to the [REDACTED] (the “**Frost & Sullivan Report**”). Frost & Sullivan is an independent global consulting firm founded in 1961 in New York that offers industry research and market strategies. We were charged RMB1,400,000 by Frost & Sullivan in connection with its preparation of the report. Our payment of such fee is not contingent upon the results of its research and analysis.

In preparing the Frost & Sullivan Report, Frost & Sullivan conducted detailed primary research which involved in-depth telephone and face-to-face interviews with industry participants. Frost & Sullivan also conducted secondary research which involved reviewing annual reports, industry publications and data based on its own research database. Frost & Sullivan obtained the figures for various market size estimates from historical data analysis plotted against macroeconomic data, and considered related industry drivers. Its forecasting methodology integrates several forecasting techniques with its internal analytics of critical market elements investigated in connection with its market research work. These elements primarily include identification of market drivers and restraints and integration of expert opinions. In preparation of the Frost & Sullivan Report, Frost & Sullivan assumed: (i) the macro economy of the PRC is likely to return to steady growth after the outbreak of COVID-19; (ii) key industry drivers are expected to continue to affect the market during the forecast period; and (iii) the social, economic and political environment in the PRC is likely to remain stable in the forecast period.

### OVERVIEW OF ONLINE GAME MARKET

#### Definition

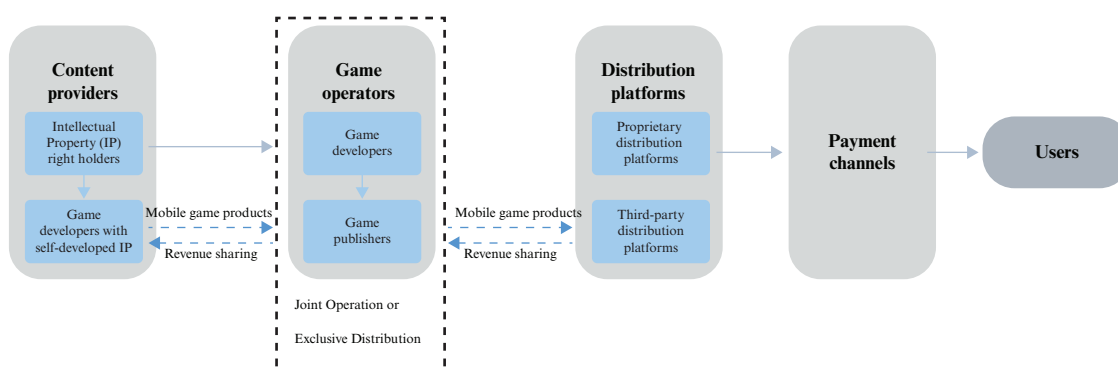
Generally, online games could be classified by various gameplay, game genre, platform, and revenue generation model, etc. In particular, online games are divided into major segments such as role-playing games (RPG), simulation games (SLG), action games (ACT), collective card games (CCG) and sports games by game genre and can be classified into personal computer (PC) games and mobile games by platform. PC games comprise games which are required to be downloaded for playing and web games which are played over the internet with web browsers. Mobile games refer to games that are played on portable devices, such as tablets or smartphones. Driven by the evolving mobile communication technology and development of smartphones, the number of mobile internet users in the PRC experienced continual growth and increased from 695.3 million in 2016 to 1,006.7

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million in 2021, at a CAGR of 7.7%. In line with the progression of mobile internet usage, the penetration rate of mobile internet users in the PRC also increased from 95.1% in 2016 to 99.6% in 2021.

### Market Value Chain

The major participants of the online game market include content providers, game operators, distribution platforms and payment channels. Many companies will participate in one or more parts of the value chain, for example, by both self-developing and publishing games. The following chart shows the value chain of the online game market:



Source: Frost & Sullivan

- Content providers include IP right holders (for example, sports leagues, music, anime and cartoons) and professional game developers with capability to self-develop IP and design the game content and conduct demo assessment and testing on the game prior to launch.
- Game operators mainly include publishers who market and promote games and provide technical support which calibrates the game post-launch and customer service for game users. Game developers can either maintain an in-house publishing team or designate one exclusive partner or simultaneously engage multiple publishers to operate and popularise the game with different marketing and pricing strategies, and promotional campaigns.
- Distribution platforms include proprietary distribution platforms and third-party distribution platforms such as Apple AppStore, Google Play and TapTap, which sell and distribute mobile games to game users.
- Payment channels include WeChat Pay, Alipay and other third-party payment gateway services providers.

### Global Market Size of Online Game Industry

The global online game market registered stable growth over the past years, increasing from USD77.0 billion in 2016 to USD154.1 billion in 2021 at a CAGR of 14.9%. With the continuously improving online game experiences brought by the cutting-edge technology and upgrading devices such as VR and 3D wiggle stereoscopy, the global market size of online games is anticipated to maintain an upward trend and reach USD223.0 billion by 2026 at a CAGR of 7.7% over the period from 2021 to 2026.

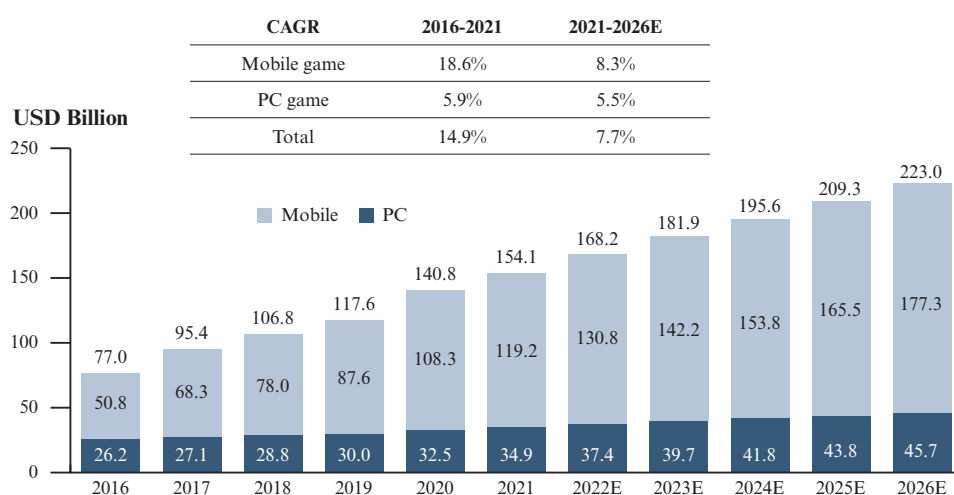
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In particular, the segment of mobile game market witnessed remarkable growth with the market size achieving a CAGR of 18.6% from 2016 to 2021, which was mainly due to the rising popularity of mobile phones and the increasing penetration of mobile internet, in particular in developing regions such as Southeast Asia and the PRC.

According to Frost & Sullivan, it is expected that due to the relaxation of pandemic control measures on a worldwide scale, a decline in consumer spending on in-app purchases in major markets such as the United States, Japan, and the PRC due to the economic downturn, and a rise in advertising costs, the global mobile game market may be exposed to downward pressure in the short term. Meanwhile, it is also expected that a number of favourable factors including but not limited to (i) the gradual recovery of the global economy from the COVID-19 pandemic which may result in an increase in disposable income of the global population as a whole; (ii) the increase in the number of online game users across the world who have developed online gaming habit during the pandemic and are likely to maintain such habit despite the relaxation of pandemic control measures; and (iii) continuous technological innovation and increasing deployment of 5G internet, AI and 3D technologies which in turn enhance the attractiveness of online games, will contribute to the growth of the global online game market in the long term. Taking into account both favourable and unfavourable factors in the short term and long term as mentioned above, the market size of global mobile game market is anticipated to continue to grow but with a lower CAGR of 8.3% from 2021 to 2026 as compared to the historical CAGR of 18.6% during 2016 to 2021 to reach approximately USD177.3 billion by 2026.

The segment of PC game market grew stably during 2016 to 2021 with a CAGR of 5.9% and will maintain steady trend in the future, the global market size of which is expected to reach USD45.7 billion by 2026.

**Global Market Size of Online Games and Forecast by Different Platforms, by Revenue, 2016–2026E**



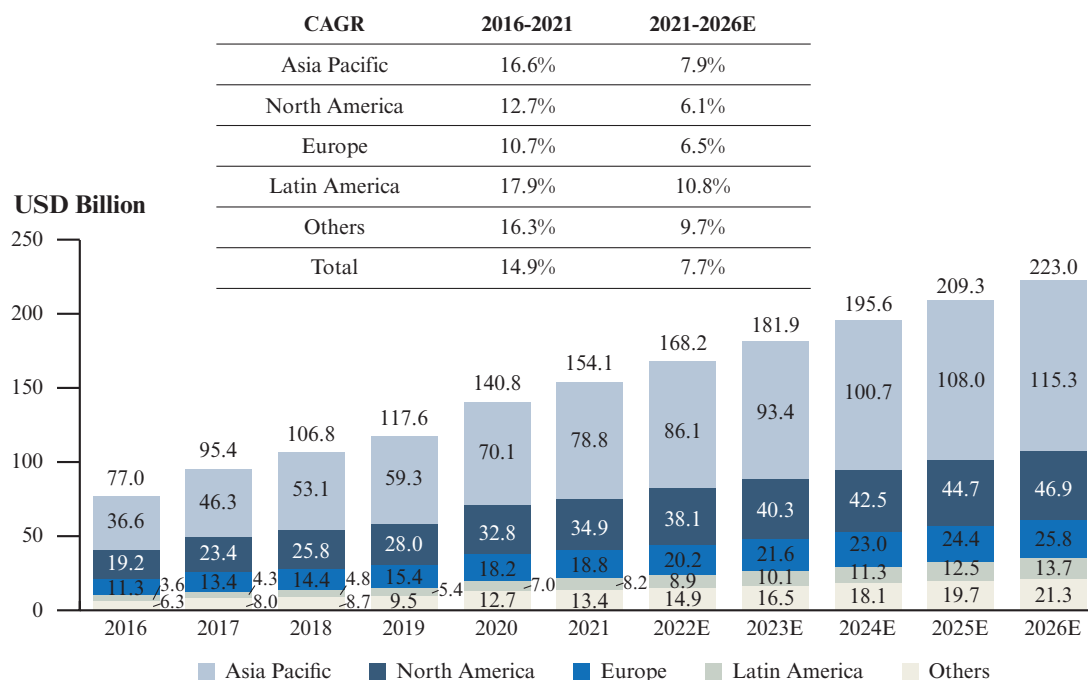
*Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Entertainment Software Association (ESA), Interactive Software Federation of Europe (ISFE), Computer Entertainment Supplier’s Association (CESA), Data.ai, Frost & Sullivan*

In terms of market size of the online game market by different regions in the world, Asia Pacific and Latin America registered meaningful growth during 2016 to 2021, representing CAGR of 16.6% and 17.9%, respectively. Going forward, driven by the rising consumer purchasing power and

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gradually improving network environment in these two regions, the market size of Asia Pacific and Latin America online game market are estimated to reach USD115.3 billion and USD13.7 billion by 2026, respectively.

**Global Market Size of Online Games and Forecast in Different Regions, by Revenue, 2016–2026E**



Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Entertainment Software Association (ESA), Interactive Software Federation of Europe (ISFE), Computer Entertainment Supplier’s Association (CESA), Data.ai, Frost & Sullivan

### Market Size of Online Game Market in the PRC

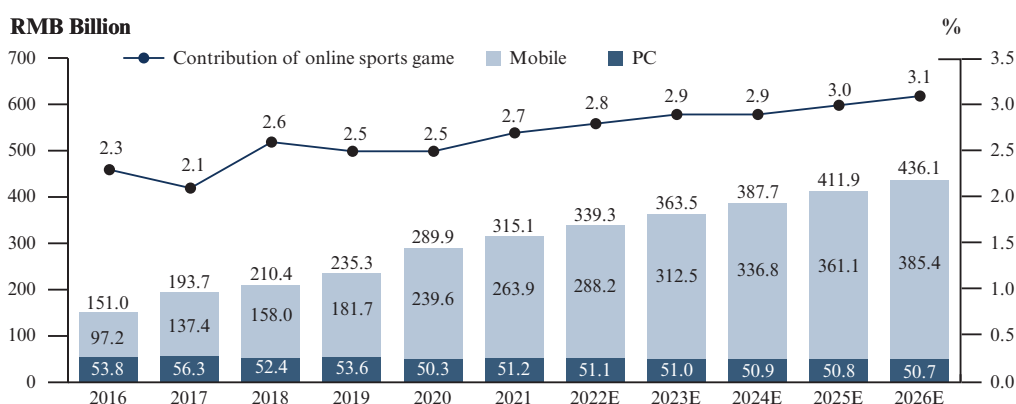
The total size of the online game market in the PRC grew at a CAGR of 15.8% in the last five years, from RMB151.0 billion in 2016 to RMB315.1 billion in 2021. The market expansion was mainly attributable to the ubiquitous mobile phones and development of technological advancement in hardware and display, processing, storage, interfaces, network bandwidth and operating system functionality which, in particular, contribute to the growing market of mobile game at a CAGR of 22.1% from RMB97.2 billion in 2016 (64.4% of the entire online game market at the time) to RMB263.9 billion in 2021 (83.8% of the entire online game market at the time). According to Frost & Sullivan, in line with the trend of the global mobile game market, due to the relaxation of pandemic control measures, a decline in consumer spending on in-app purchases due to the economic downturn, and a rise in advertising costs, the PRC mobile game market may also be exposed to downward pressure in the short term. Nevertheless, a number of favourable factors including but not limited to (i) the expansion of internet coverage that the number of 5G base stations in the PRC has reached 1.43 million in 2021 and is anticipated to increase to 4.62 million in 2026; (ii) the online gaming habit developed during the pandemic is expected to linger after the relaxation of pandemic control measures; and (iii) the continuous technological innovation and the introduction of more advanced AI and 3D technologies which in turn enhance the attractiveness of online games, will contribute to the growth of the mobile game market in the PRC in the long term. Taking into

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account both favourable and unfavourable factors in the short term and long term as mentioned above, it is expected that the mobile game market in the PRC will continue to grow but with a lower CAGR of 7.9% as compared to the historical CAGR of 22.1% from 2016 to 2021 to reach RMB385.4 billion in 2026.

**Market Size of Online Game Market and Forecast in the PRC,  
by Revenue, 2016–2026E**

CAGR	2016-2021	2021-2026E
Mobile	22.1%	7.9%
PC	-1.0%	-0.2%
Total	15.8%	6.7%



*Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Frost & Sullivan*

The rapid growth of the mobile game market in the PRC can be attributed to the following factors:

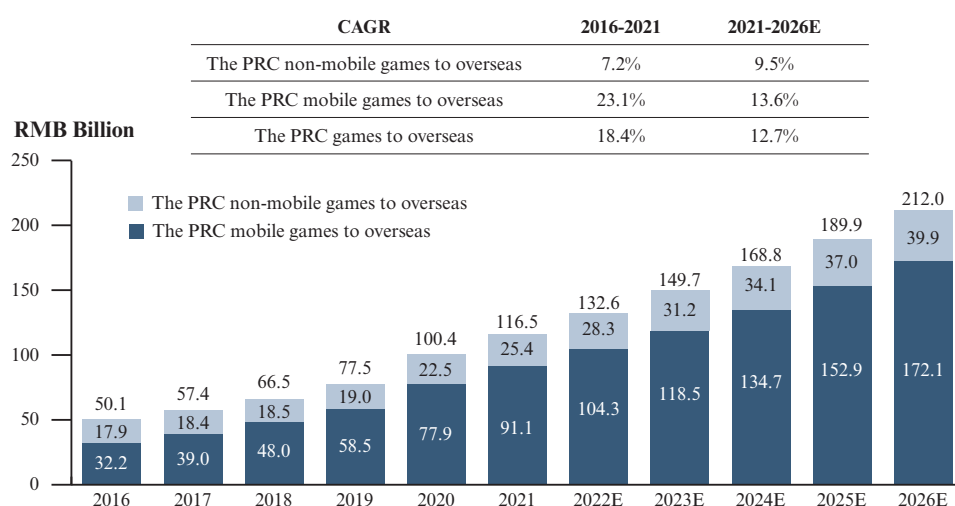
- **Expanding internet coverage and lower communication cost** — Game users are gaining faster and more affordable internet access. According to the Department of Information and Communication Development of the PRC, 5G internet coverage is expected to be further expanded to remote villages and border areas in order to bring technological convenience to local people. Accordingly, as of 2021, in the PRC, the total number of 5G base stations has exceeded 1.4 million.
- **Changing consumption patterns and demography** — Due to the rising disposable income, convenience of online payment channels and diversified genres of mobile games, consumers are increasingly willing to pay for mobile entertainment activities. The paying ratio of mobile games in the PRC has increased drastically from 53.6% in 2016 to 78.8% in 2021. Furthermore, according to National Bureau of Statistics of the PRC, the population of generation post-90s reached approximately 494.7 million in 2021, who are more online socializing savvy than the older generations. As such, the ARPPU of mobile games in the PRC has reached RMB461.9 in 2021.
- **Development and popularity of electronic sports (E-sports)** — Electronic sports (E-sports) refer to computer games played in a competitive setting structured into leagues, in which game users compete through networked games and related activities, while traditional sports such as basketball and football emphasize the use of physical strength and ability

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for competition. E-sports has many similarities with traditional sports, such as having professional athletes, teams with commercial operators, international league tables and rigorous training standards. In many countries, E-sports is regarded as a socially acceptable and relatively healthy form of computer games, and are welcomed by fans of traditional sports. E-sports has now developed globally into a comprehensive value chain which comprises content owners/providers (game developers, IP owners, game publishers, IP licensors), event organisers (leagues, tournaments, playoffs), media/platforms (mobile game companies, streaming technology companies), hardware/peripheral vendors and playing users (amateur players, professional players, retired players, semi-professional teams, professional teams), etc. Over the years, E-sports continues to integrate into the traditional sports industry, such as the development of online sports games, and the crossover between E-sports and traditional sports is mutually benefiting the growth of both industries alongside each other. The growing popularity of E-sports allows game users to compete with each other in the online sports action simulation games, such as FIFA Football, and hence gives rise to new opportunities for live streaming platforms such as Douyu and Bilibili. KOLs in these platforms also utilise their influences to promote the E-sports games which fuels the development of mobile game market in the PRC.

With the rapid development of the mobile game market in the PRC, mainland Chinese game developers have been working on the improvement of game content and quality, which laid foundation for the publishing of local mobile games to overseas. The market size of the PRC mobile games to overseas registered notable growth with a CAGR of 23.1% during 2016 to 2021. It is estimated the market size of PRC mobile games to overseas would keep expanding as more and more Chinese companies are actively exploiting overseas consumption markets.

**Market Size of the PRC Games to Overseas,  
by Revenue, 2016–2026E**

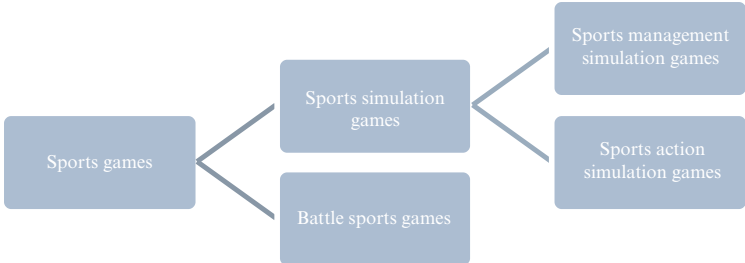


Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Frost & Sullivan

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**OVERVIEW OF ONLINE SPORTS GAME MARKET IN THE PRC**

**Market segmentation of online sports games**



Source: Frost & Sullivan

Generally, sports games are divided into two categories — sports simulation games and battle sports games. On the one hand, sports simulation games aim to simulate real-world sports teams and players to create realistic and enhanced sense of immersion to the users, and thus IP right licenses of real-world sports leagues, sports associations and sports clubs are usually required. On the other hand, battle sports games do not seek to simulate the reality in the games but instead aim to create an imaginative world for users to compete with each other. For example, it is common for sports simulation games to deploy 3D technology to create in-game virtual players based on the likeness and/or images of the real life athletes while battle sports games may use simple graphics or animation to create virtual players. In addition, sports simulation games usually have game updates in accordance with the changing dynamics of the sports leagues and sports players in real life, while battle sports games are less adaptable to such dynamics and tend to provide monotonous gameplay to their users.

Sports simulation games can be further divided into, albeit with some common features, sports management simulation games and sports action simulation games. While sports management simulation games mainly focus on the management and training of sports teams wherein the users act as a team manager or coach, sports action simulation games are featured with additional control functions which allow users to manually steer the virtual sports players. One significant difference between sports action simulation games and sports management simulation games is that while in-game battles of sports management simulation games are run automatically, in-game battles of sports action simulation games are manually controlled by users such that the results are substantially affected by the users’ steering skills.

Despite some common features between sports action simulation games and sports management simulation games, the following table sets out their key differences:

	<b>Sports action simulation games</b>	<b>Sports management simulation games</b>
<b>Core gameplay</b>	The users’ manual steering skill in controlling the virtual players is a more important factor in determining the results of in-game battles. The purchase of enhanced virtual items and virtual players may give users a unique edge in battles.	Strongly correlated with the development of real-life sports events. The purchase of enhanced virtual items and virtual players is a more important factor in winning in-game battles which are run automatically.

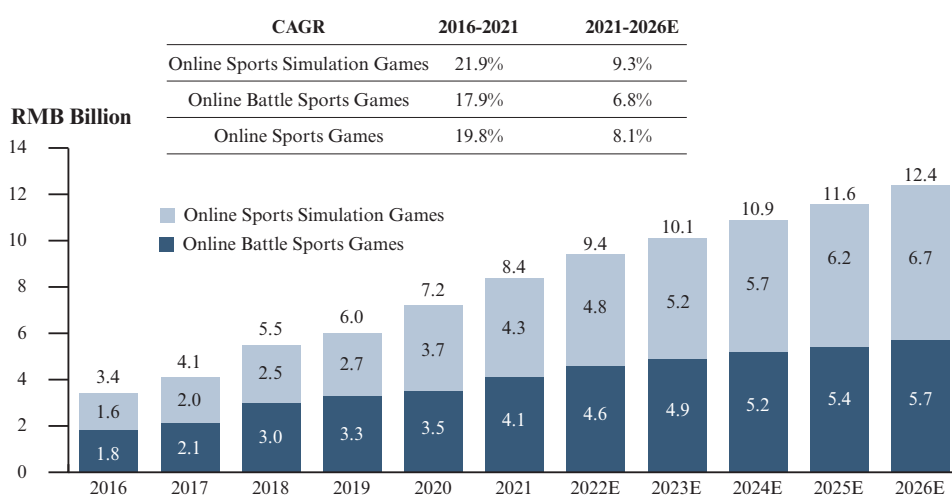
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	<b>Sports action simulation games</b>	<b>Sports management simulation games</b>
<b>Satisfaction</b>	Excitement from stimulating hands-on experiences	Satisfaction derived from leadership in staging battles with different team formation and strategies
<b>Gaming strategies</b>	Tend to cultivate users’ manual steering skill in controlling their selected virtual players through intensive practice	Tend to enhance the virtual items and virtual players to stage battles with different team formation strategies

### Market Size Analysis

Sports game is one of the genres of online games, which takes approximately 4% to 6% of the total market size in the global online games market. In 2021, the online sports game market contributed only approximately 2.7% to the overall online game market in the PRC. Both online sports simulation games and online battle sports games in the PRC market increased over the period from 2016 to 2021. Specifically, the revenue of online sports simulation games market in the PRC increased from RMB1.6 billion in 2016 to RMB4.3 billion in 2021 at a CAGR of 21.9%, while that of online battle sports games rose from RMB1.8 billion in 2016 to RMB4.1 billion in 2021 at a CAGR of 17.9%. Driven by the increasing number of mobile internet users and improving technology and user experiences in the mobile games, the revenue of the PRC online sports game market is expected to maintain the upward momentum during the period from 2021 to 2026.

**Market Size of Online Sports Games in the PRC by Game Genre, by Revenue, 2016–2026E**



Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Frost & Sullivan



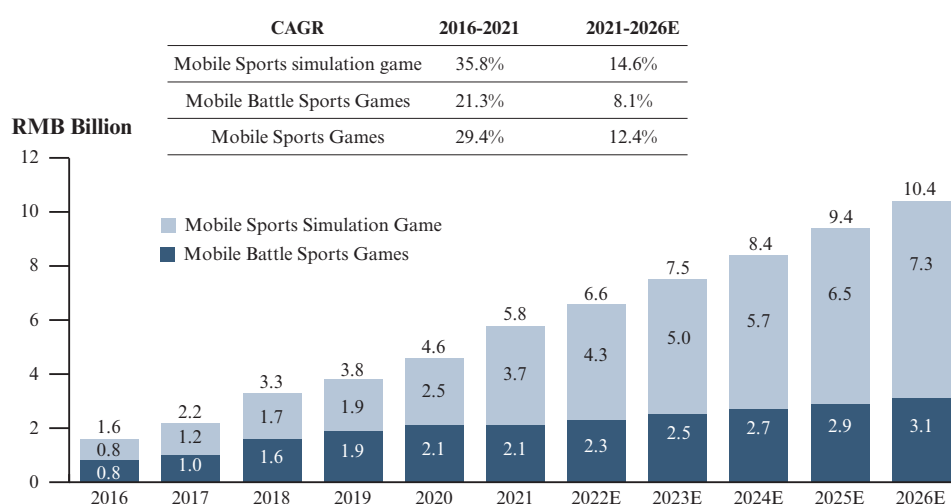
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### OVERVIEW OF MOBILE SPORTS GAME MARKET

#### Market Size Analysis

Contributed by the rapid development of the internet industry and widely popularized smart phone, many sports games have transferred from PCs and consoles to smart phones or tablets. Nowadays, most mobile sports simulation games are football and basketball themed, whereas other sports games, such as baseball and American football are emerging and supported by the respective huge fan population. The market size of mobile sports simulation games in the PRC increased rapidly from RMB0.8 billion in 2016 to RMB3.7 billion in 2021, representing a CAGR of 35.8%. According to Frost & Sullivan, in line with the trend of the PRC mobile game market, the PRC mobile sports game market may also be exposed to downward pressure in the short term due to, among others, the relaxation of pandemic measures, a decline in consumer spending on in-app purchases due to the economic downturn, and a rise in advertising costs. Nevertheless, a number of favourable factors including but not limited to (i) the gradual recovery of economy in the PRC; (ii) the expanding internet coverage; (iii) the online gaming habit developed during the pandemic is expected to linger after the relaxation of pandemic control measures; and (iv) the continuous technological innovation and the introduction of more advanced AI and 3D technologies which in turn enhance the attractiveness of mobile sports games, will contribute to the growth of the mobile sports game market in the PRC in the long term. Taking into account both favourable and unfavourable factors in the short term and long term as mentioned above, it is expected that the market size of mobile sports simulation games in the PRC will continue to grow but with a lower CAGR of 14.6% from 2021 to 2026 as compared to the historical CAGR of 35.8% from 2016 to 2021 to reach RMB7.3 billion in 2026 and the market size of mobile battle sports games in the PRC will continue to grow but with a lower CAGR of 8.1% from 2021 to 2026 as compared to that of 21.3% from 2016 to 2021 to reach RMB3.1 billion in 2026.

**Market Size of Mobile Sports Games in the PRC,  
by Revenue, 2016–2026E**

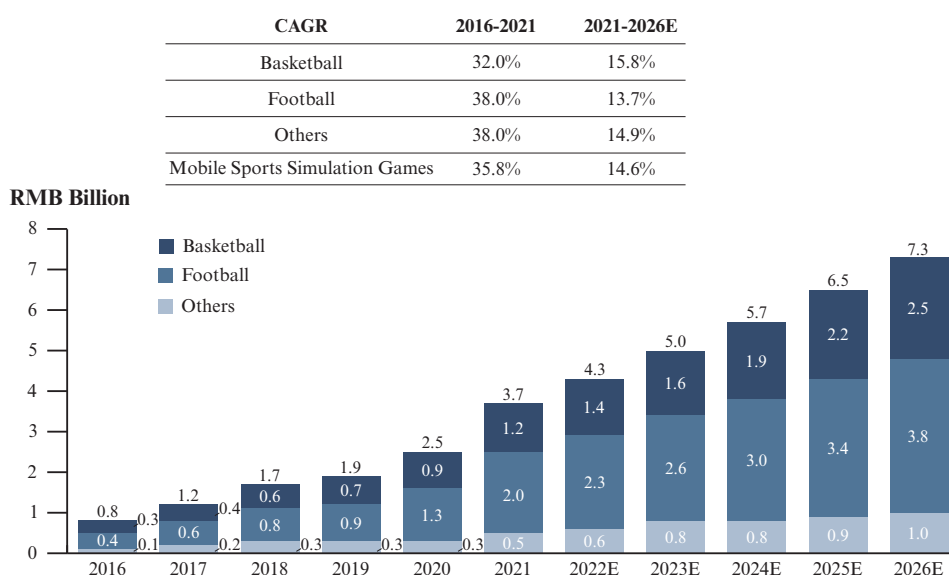


Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Frost & Sullivan

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Football-themed and basketball-themed mobile sports simulation games are the two most significant genres among the entire mobile sports simulation game market in the PRC, with an aggregate market share of approximately 86.5% in 2021. The market size of basketball-themed mobile sports simulation games increased rapidly from RMB0.3 billion in 2016 to RMB1.2 billion in 2021, at a CAGR of approximately 32.0%. The market size of basketball-themed mobile sports simulation games in the PRC is expected to reach RMB2.5 billion in 2026. Meanwhile, the market size of football-themed mobile sports simulation games increased rapidly from RMB0.4 billion in 2016 to RMB2.0 billion in 2021, at a CAGR of approximately 38.0%. The market size of football-themed mobile sports simulation games is expected to reach RMB3.8 billion in 2026. In addition, the market size of mobile sports simulation games themed with other sports grew from RMB0.1 billion in 2016 to RMB0.5 billion in 2021, at a CAGR of approximately 38.0% and is expected to reach RMB1.0 billion in 2026.

**Market Size of Mobile Sports Simulation Games in the PRC by Major Sports Types, by Revenue, 2016–2026E**

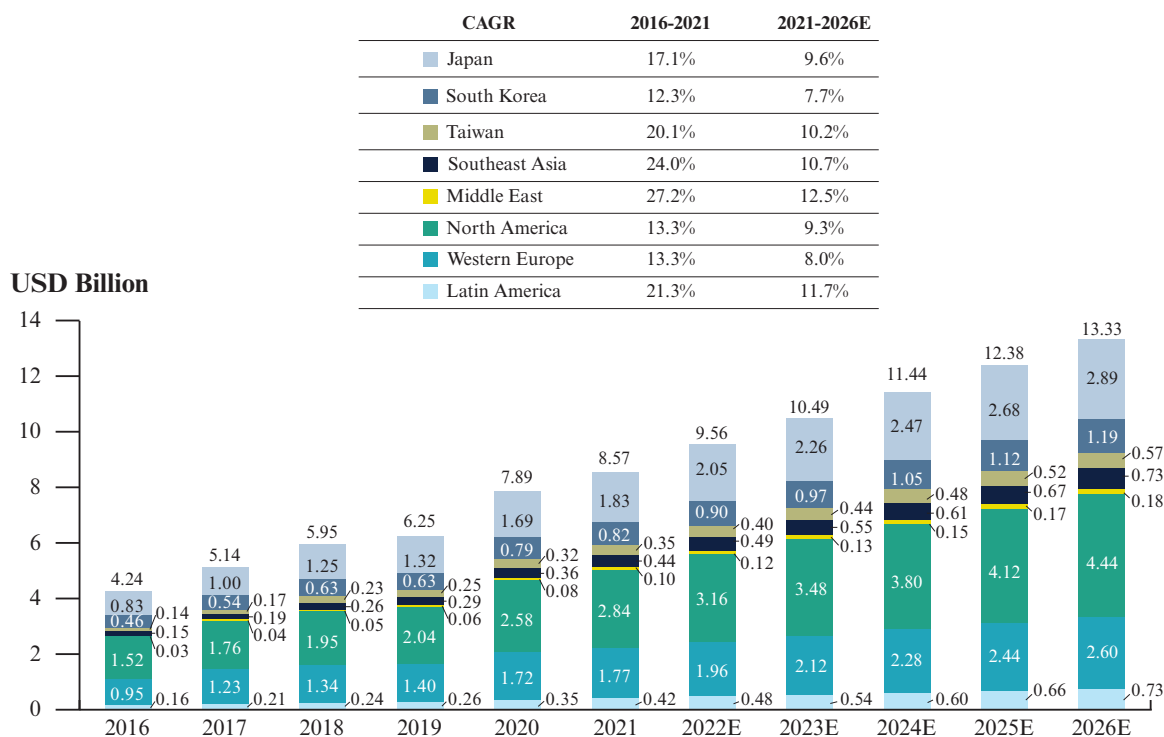


*Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Frost & Sullivan*

The North America, Western Europe and Japan are the three major overseas markets for mobile sports simulation games. With the rapid development of the internet infrastructure and the growing penetration rate of mobile devices, the market size of mobile sports simulation games in emerging overseas markets, such as Southeast Asia, Middle East and Latin America, is expected to continue the growth at a double-digit CAGR from 2021 to 2026.

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**Market Size of Mobile Sports Simulation Games of Major Overseas Markets, by Revenue, 2016–2026E**



Source: Game Publishing Working Committee of the China Audio-video and Digital Publishing Association (GPC), Entertainment Software Association (ESA), Interactive Software Federation of Europe (ISFE), Computer Entertainment Supplier’s Association (CESA), Data.ai, Frost & Sullivan

### Market Drivers

The mobile sports game market continues to develop and provides significant opportunities for game developers and other industry players in light of the following key drivers:

- Changing technological landscape** — Technology improvements allow mobile games to capture more real-life situations from sports activities, with enhanced digital interaction. Going forward, mobile sports games will feature more engaging AI and 3D elements, enabling game users to be immersed in the game with dynamic challenges brought by AI technology. Other advanced technology, such as VR/AR holography also provides game users with higher level of interactive experience.
- Introduction of new E-sports in new emerging markets** — The increasing popularity of E-sports is expected to further promote the overall awareness and popularity of different sports types and sport leagues around the world, and thereby expand the addressable market size of the global sports goods and services industry including online and mobile sports games and drive the penetration of online sports games in the global market. For instance, the EA Champions Cup (EACC) is one of the successful E-sports initiatives for the promotion of online sports game and is an example of the concerted establishment of an ecosystem benefiting the development of industries along the E-sports value chain involving game developers, game users, sports leagues, TV networks, and live-streaming platforms. Although E-sports competitions originated from computer games, it has been

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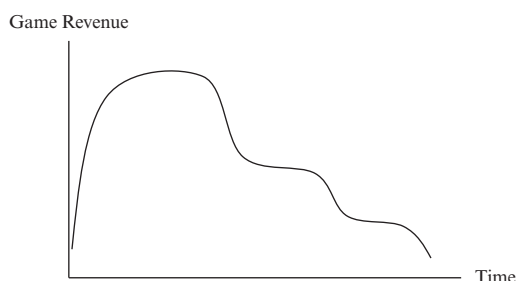
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evolving to include mobile games. Mobile E-sports games provide game users more opportunities to engage in competitive gameplay experiences with other users and offer game users strong game engagement experiences. Therefore, the popularity of E-sports drives the development of mobile sports games by facilitating the accessibility and development of E-sports competitions. As more and more variety of E-sports, including baseball, American football and tennis, are promoted especially in new emerging markets, such as Japan, China and other Asia Pacific regions, there provides a significant room for game developers to capture these online sports game opportunities, both in the local market where the sports originate and new emerging market with rising popularity.

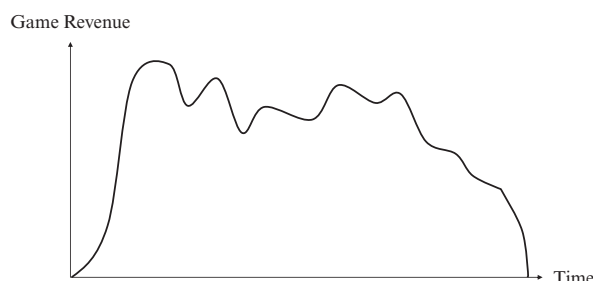
- **Longer lifecycle of mobile sports games** — With the enduring support and stickiness of the existing and loyal fan base of sports considering that online sport games may be played as a part of a users’ lifelong interest in the particular sport, online sports game, on average, is considered as having a relatively longer lifecycle than other genre of online games.
- **Favorable policy to foster national enthusiasm for sports and cultural development** — In July 2022, the MOFCOM together with 26 other government departments issued a guideline to promote the high-quality development of cultural trade (關於推進對外文化貿易高質量發展的意見), which, among others, aims to deepen the reforms on cultural development of and streamline the approval process of online games as well as to encourage brand building of cultural enterprises, including game companies, in the international markets.

### Life Cycle Analysis of Online Sports Games

Life Cycle Model A Online Sports Games



Life Cycle Model B Online Sports Games



There are mainly two models of online sports games with regard to their lifecycles.

- **Model A:** Normally, both game revenue and number of active users may reach its peak within six months after a Model A game is launched. If there are no further promotional or marketing activities, the game revenue and number of active users of such games will descend until its revenue fail to cover the operating cost of the game within one to three years after its launch. Normally, if an online sports game has not experienced significant recession which demonstrates insufficient revenue to cover its operating cost within three years after its launch, the game tends to be a Model B game. For example, as the game revenue of the *Football Master* (足球大師) and *NBA Basketball Master* (NBA籃球大師) of our Group have not experienced such significant recession which demonstrates insufficient revenue to cover their operating costs within three years after the launch, they can be categorized as Model B games.

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- **Model B:** Model B games are designed to be operated in the long run. In response to the technology trend and dynamic needs of the game users, Model B games are updated regularly, where new technologies and changes of players and sports teams in the real world development would be continuously incorporated in order to cater for the dynamic appeals from game users and allow the content of sports games to be updated and synchronized with reality. Model B games may transfer or migrate from old platforms to new platforms continuously with development of hardware, and users of these games are usually loyal fans who follow such transfer or migration of the games. Model B games are normally games with IP right licenses that are updated with the changing dynamics of the sports leagues and sports players in real life. The lifecycle of the Model B sports games can last for as long as 10 years and some of them are enjoying even more enduring popularity and lifespan since their launch. Normally, it may take approximately 1 year for a Model B sports game to enter into its stable and mature stage, and its entire lifecycle may hold for approximately 10 years before reaching the final stage when the revenue of the game fails to cover its operating cost or shows the trend of loss. However, the stable and mature stage can be sustained or extended if the game developer and operator continues to release new versions periodically. The existing four games and the new games in the pipeline of our Group are designed as Model B games such that they are designed with up-to-date technologies such as advanced 3D engine and various rendering technologies and are licensed with IP rights from renowned sports league, sports associations and sports clubs. The games of our Group aim to recreate the real athletes and world sports events and are regularly updated to synchronize with real-life sports events and development. Our Group also strives to improve the technology applied in the games to optimize users’ experience. It is expected that such continuous upgrades and updates in both game content and technology to simulate the reality and cater for users’ needs will enable our Group to retain its users and increase their loyalty and stickiness to the games. Also, given that the loyalty of sports fans to their favoured sports leagues and players may last throughout their lifetime, it is expected that our Group’s games, which are designed as Model B games, can have a relatively longer lifecycle.

### **Ubiquity of Model B games in the online sports simulation game industry**

In general, Model A games are more common in the wider online game industry. Compared to Model B online games, Model A online games are designed to achieve profit maximization by capturing the short-term market demand for the games with an expected lifecycle of one to three years. Therefore, Model A games are relatively less sophisticated and easier to develop with monotonous game features to provide short-term entertainment to game users as developers of Model A games normally would not devote considerable resources and efforts to improving the research and development capabilities to sustain the competitiveness of the games. Also, developers of Model A games would incur less management resources and capital for acquisition of popular IP right licenses as well as place less focus on updating or upgrading the games with the latest technology trend to cater for the dynamic needs of the game users. As such, Model A games aim to capture short-term market demand within the expected lifecycle of one to three years and developers of Model A games would devote less investment cost and efforts to the enhancement of research and development capabilities to support the continuous game version and content updates.

However, high-quality Model B games may dominate in the online sports simulation game (including online sports management simulation game and online sports action simulation game) industry as successful Model B online sports simulation games which allow sports fans to realize and engage their life-long interest through managing and controlling their favourite sports players virtually require the game developers (i) to be equipped with strong research and development capabilities so

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as to support the continuous game version and content updates and upgrades, such as advanced 3D technology, AI technology and rendering technology to enhance the in-game interactions among the game users and to provide an immersive user gameplay experience; and (ii) to acquire IP right licenses from popular sports leagues, sports associations and sports clubs to simulate the real-life sports world development to foster the attractiveness of the games and increase the user stickiness by leveraging the sports fans’ personal attachment to their favourite sports players so as to sustain the competitiveness of the games and to extend the lifecycle of the games to approximately ten years. Therefore, all our Group’s games follow the Model B game trajectory.

### Entry Barriers

- **Intellectual property license rights** — Intellectual property rights play a significant role in the sports simulation game market as games that simulate popular sports leagues (such as FIFA or the NBA) and sports associations (such as FIFPro or the NBPA) require cooperation with the intellectual property right owners. Typically, such intellectual property right owners will form an agreement with game developers by charging game developers a fixed cost and, in some cases, with an additional 6% to 30% revenue sharing after a certain revenue threshold is exceeded.

The gameplay and style of the games licensed with intellectual property rights from NBA and FIFPro are widely divergent as NBA and FIFPro are very scrupulous when choosing game developers for partnership as they are unwilling to swarm the markets with too many licensed games, particularly those of poor quality which may threaten or potentially harm the overall reputation and goodwill of their intellectual property rights. Thus, it poses an entry barrier for a new game developer with limited track records to negotiate and secure cooperation with or existing partners to renew the intellectual property license with renowned intellectual property right owners such as NBA and FIFPro.

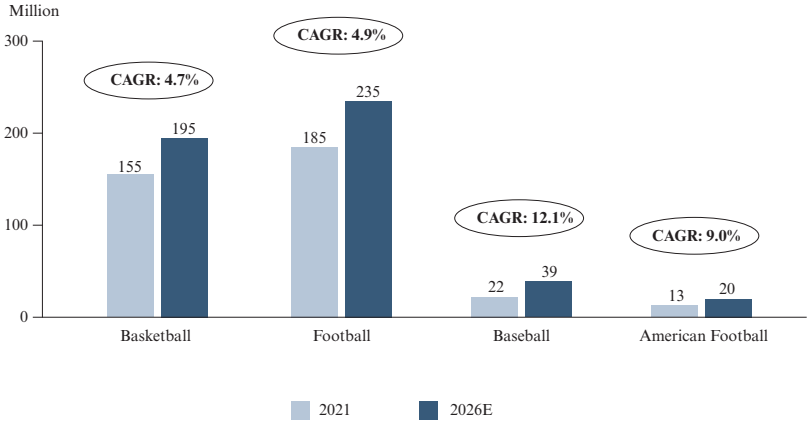
- **Technological know-how** — To develop online games of high quality that would attract and retain game users require game developers to be equipped with strong R&D capability. Advanced technology support, which provides expertise to enhance game development, testing and implementation by a team of professional talents is essential for the operational success. New entrants, however, may incur excessive cost and time to establish a professional team of talents or acquire the necessary technological know-how. The leading players in the industry are able to enlarge their R&D teams by providing competitive salary, while the new entrants may not be able to sustain their R&D teams if they cannot provide sufficient compensation to acquire or retain their key R&D staffs.

### Analysis on Popularity of Major Sports in PRC

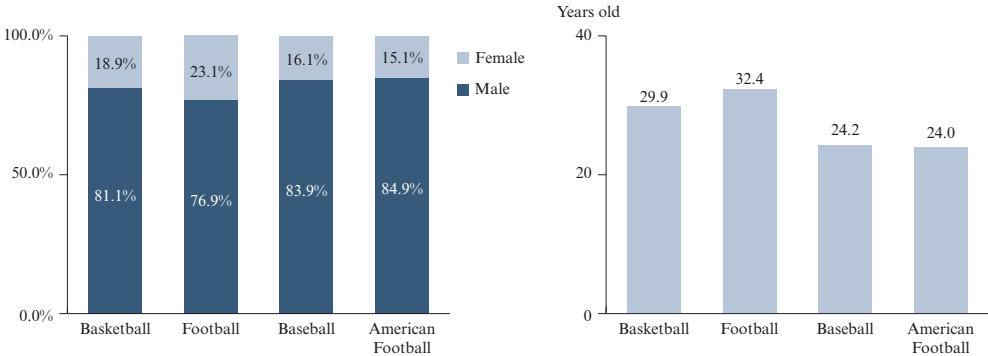
Basketball and football are two of the most popular sports in the PRC, and each of them has a huge fan base. Baseball and American football are two emerging sports in the PRC. Although the estimated number of sports fans of baseball and American football are relatively small in the PRC, their popularities have been increasing rapidly and are expected to grow at a CAGR of approximately 12.1% and 9.0%, respectively, from 2021 to 2026.

**INDUSTRY OVERVIEW**

**Estimated Number of Sports Fans in the PRC, 2021 and 2026E**



**Gender Ratio and Average Age of Sports Fans in the PRC, 2021**



Source: Chinese Basketball Association (CBA), Chinese Football Association (CFA), Chinese Baseball Association (CBA), Chinese Rugby Football Association (CRFA), Frost & Sullivan

Note: For the market size of basketball themed and football themed mobile sports games in the PRC, please refer to “— Overview of Mobile Sports Game Market — Market Size Analysis” above. The data for the market size of baseball themed and American football themed mobile sports games in the PRC are currently unavailable.

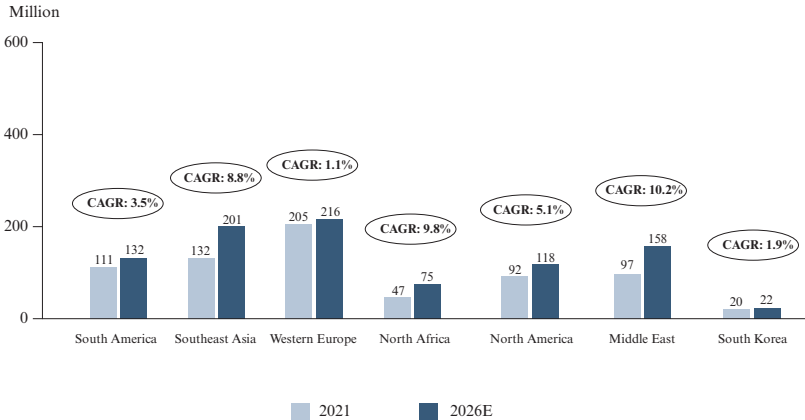
**INDUSTRY OVERVIEW**

**Analysis on Popularity of Major Sports in Overseas Markets**

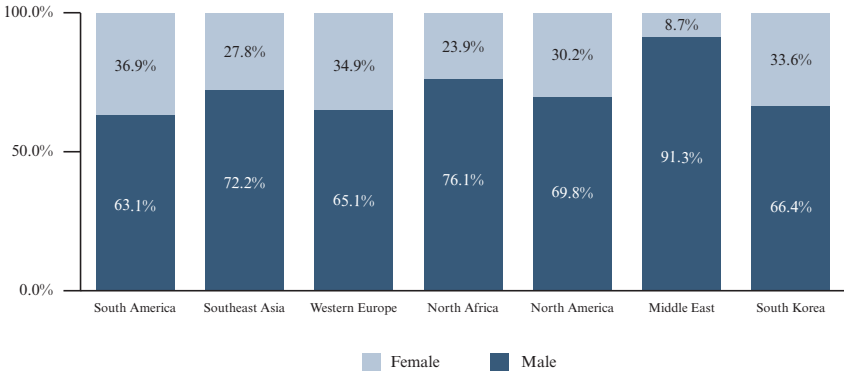
- Football**

Football is the most popular sport in the world with approximately 1.0 billion football fans globally in 2021. The number of global football fans is expected to reach 1.4 billion in 2026.

**Estimated Number of Football Fans Overseas, 2021 and 2026E**



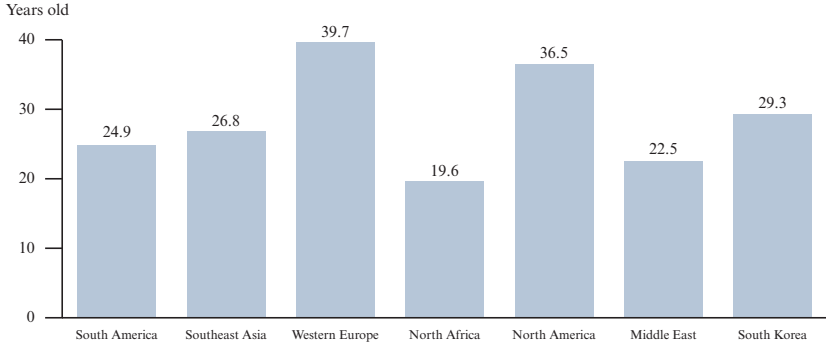
**Gender Ratio of Football Fans Overseas, 2021**



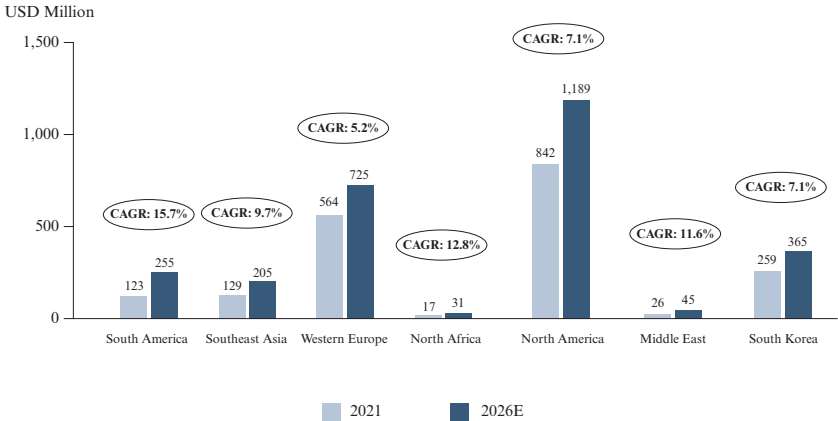


**INDUSTRY OVERVIEW**

**Average Age of Football Fans Overseas, 2021**



**Market Size of Mobile Football Game Overseas, 2021 and 2026E**



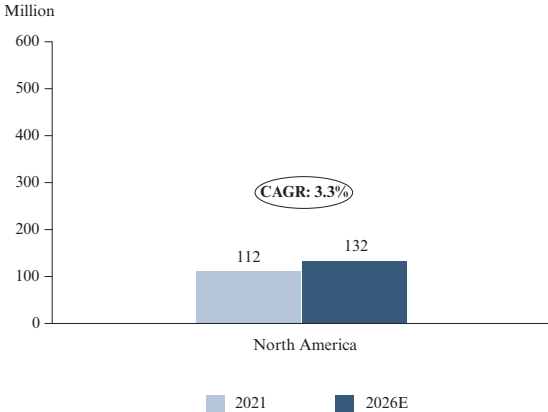
Source: International Federation of Association Football (FIFA), European Club Association (ECA), Major League Soccer (MLS), Frost & Sullivan

● **Basketball**

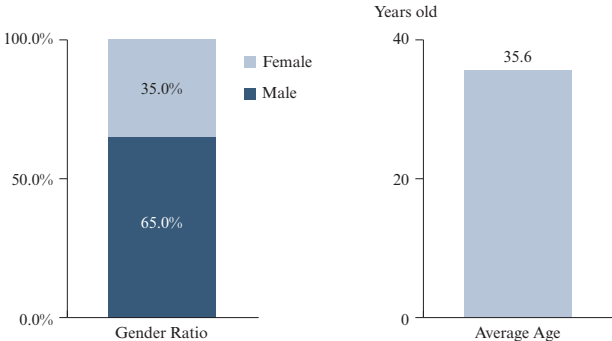
Basketball is one of the most popular sports in North America with a fan base of approximately 112 million in 2021, which is expected to increase at a CAGR of approximately 3.3% to 132 million in 2026. The popularity of basketball in North America is largely attributable to the influence of NBA, a well-recognized and long-established professional basketball association in the United States.

**INDUSTRY OVERVIEW**

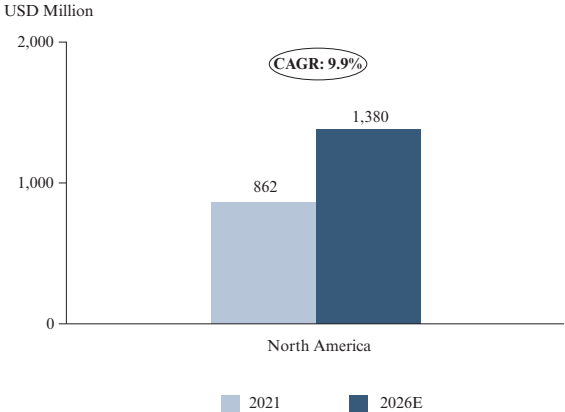
**Estimated Number of Basketball Fans in North America, 2021 and 2026E**



**Gender Ratio and Average Age of Basketball Fans in North America, 2021**



**Market Size of Mobile Basketball Game in North America, 2021 and 2026E**



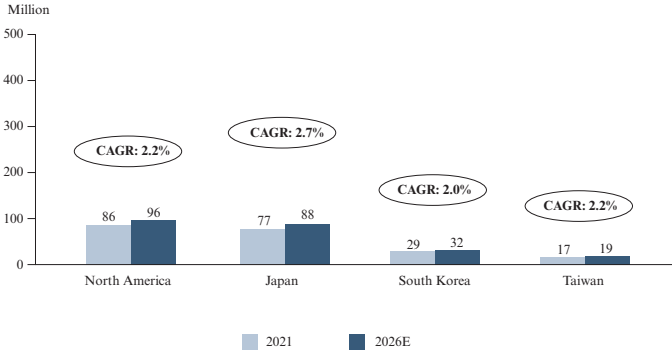
Source: National Basketball Association (NBA), Frost & Sullivan

**INDUSTRY OVERVIEW**

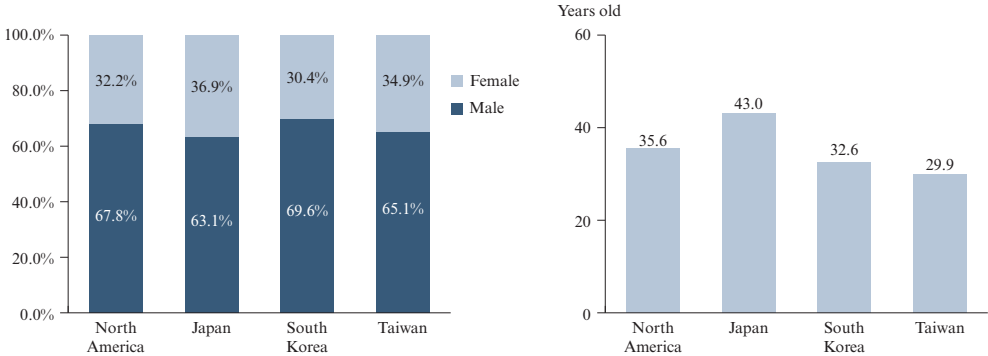
- Baseball**

Baseball is a popular sport in North America, Japan, South Korea and Taiwan with fan base of approximately 86 million, 77 million, 29 million and 17 million respectively in 2021. The CAGR of the number of baseball fans from 2021 to 2026 in these four regions is estimated to range from 2% to 3%. Their market size of mobile baseball games in these four regions in 2021 was approximately US\$255 million, US\$318 million, US\$194 million and US\$108 million respectively and is expected to increase to US\$798 million, US\$825 million, US\$583 million and US\$308 million in 2026. The popularity of baseball also rides on the influence of the MLB, a well-recognized and long-established professional baseball league in the United States.

**Estimated Number of Baseball Fans Overseas, 2021 and 2026E**

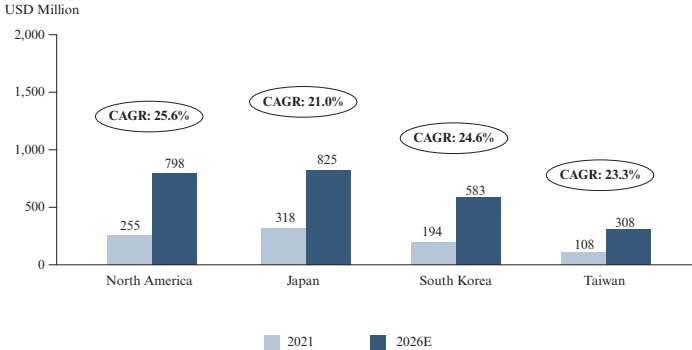


**Gender Ratio and Average Age of Baseball Fans in the Overseas, 2021**



**INDUSTRY OVERVIEW**

**Market Size of Mobile Baseball Game Overseas, 2021 and 2026E**

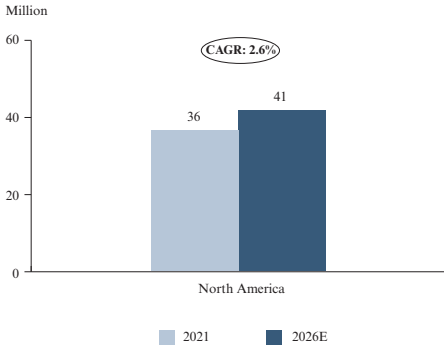


Source: Major League Baseball (MLB), Nippon Professional Baseball (NPB), Korea Baseball Organization (KBO), Chinese Professional Baseball League (CPBL), Frost & Sullivan

- American football**

American football evolved in the United States and has become one of the most popular sports in North America. The fan base of American football reached approximately 36 million in North America in 2021 and is expected to increase to 41 million in 2026. The market size of mobile American football games in North America was US\$1,625 million in 2021 and is expected to increase to US\$2,434 million in 2026. The NFL is the major American football league with a large fan base in the North America.

**Estimated Number of American Football Fans in North America, 2021 and 2026E**

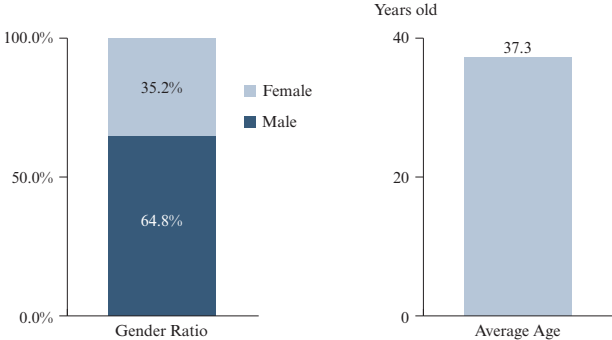


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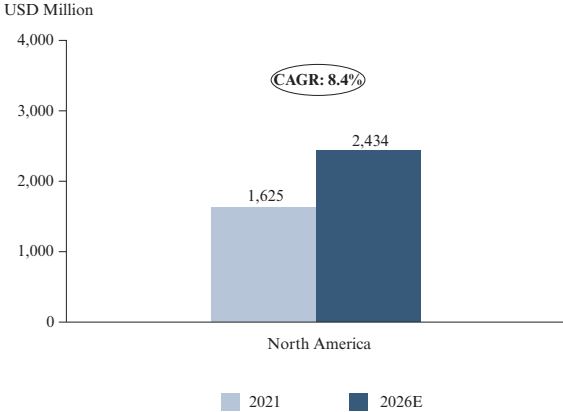
## INDUSTRY OVERVIEW

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### Gender Ratio and Average Age of American Football Fans in North America, 2021



### Market Size of Mobile American Football Game in North America, 2021 and 2026E



*Source: National Football League (NFL), Frost & Sullivan*

### Threats and challenges

**Uncontrolled pirated mobile games** — Certain game developers may imitate and pirate popular mobile sports games in the domestic or overseas market by infringing the intellectual property rights which would cause damage to the interests and reputation of game developers who have committed to contractual licensing arrangement and undermine the sustainability of the online sports game industry.

**Limited contractual period of intellectual property licenses** — Normally, the contractual period between renowned sports clubs and game developers are limited to one to three years. Upon expiration, if the game developers cannot successfully compete with other industry players for renewal of the license, they could no longer retain the sports clubs as images in their games. To face with the challenges of limited contractual period, game developers have to continuously improve their market competitiveness to maintain dominant position in the market.

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## INDUSTRY OVERVIEW

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### COMPETITIVE LANDSCAPE ANALYSIS

The integrated online sports game companies are the game companies who are able to develop and publish online sports games, including online sports simulation games and online battle sports games, independently. Generally, companies with (i) a team of professional talents with deep understanding of both the sports and online game industry; (ii) substantial capital for acquiring intellectual property rights, securing game engines, running promotion and marketing campaigns and hiring sports stars as spokespersons; (iii) strong reputation and track record to secure collaboration with sports clubs and sports leagues and third-party distribution platforms such as mobile app stores; and (iv) advanced knowledge and technology to develop games with immersive and interactive experiences which are less easily replicable than games with low costs and skills, have higher bargaining power and are more capable of maintaining sustainability in their competitiveness and strong market influence.

As of December 31, 2021, there were approximately 480 market players in the online sports game market in the PRC. The market is fragmented with many relatively small companies with insignificant market influence and is dominated by the largest market player (Company A) with approximately 19.6% of market share in terms of revenue from online sports game in 2021. The mobile sports simulation game industry in the PRC is also evolving rapidly and is highly competitive, as manifested by the frequent introduction of new products and services, limited product lifecycle for certain game models, continuous introduction of new technological and equipment enhancement, evolving industry standards and constantly changing user demands and preferences. Other than local sports game developers and publishers, our Company also competes with leading overseas sports game developers when their games are localized and published in the PRC. Therefore, it is important for market players to obtain the IP right licenses from popular sports leagues, sports associations and/or sports clubs in order to create realistic and attractive game content.

The following table shows the top five market players in terms of revenue in the online sports game market in the PRC in 2021.

## INDUSTRY OVERVIEW

Ranking	Company name <sup>(1)</sup>	Description	Number of online sports game and type of sports involved in the game in 2021 <sup>(2)</sup>	Revenue from online sports game in 2021 <i>RMB million</i>	Market share in online sports game market, 2021	Numbers of Sports related IPs, as of the Latest Practicable Date <sup>(3)</sup>
1	Company A	Founded in 1998, it is a Chinese internet company headquartered in Shenzhen. It is listed on HKEx and it is also one of the world’s largest social media companies.	Football (4); basketball (3); snooker (1)	1,643.7	19.6%	4
2	Company B	Founded in 1982, it is an American game company headquartered in Redwood City. It is a listed company on NASDAQ.	Football (3)	502.7	6.0%	2
3	<b><i>Our Group</i></b>	<b><i>Founded in 2013, it is a Chinese game company headquartered in Shenzhen.</i></b>	<b><i>Football (2); basketball (1)</i></b>	<b><i>459.9</i></b>	<b><i>5.5%</i></b>	<b><i>9</i></b>
4	Company C	Founded in 1997, it is a Chinese internet company headquartered in Beijing. It is a listed company on NASDAQ.	Football (2); basketball (1)	458.6	5.5%	7
5	Company D	Founded in 1969, it is a Japanese game company headquartered in Tokyo. It is a listed company in LSE.	Football (2)	334.3	4.0%	7
				Top 5	3,399.2	40.6%
				Total	8,400.0	100.0%

Source: *Data.ai, Frost & Sullivan*

Notes:

- (1) The identities of the competitors are not disclosed as the consents from these relevant competitors have not been obtained as of the Latest Practicable Date.
- (2) All the online sports games operated by Companies A, B, C and D are Model B games.
- (3) The numbers of sports related IP are the total number of IPs applied in the sports games they launch in the PRC market.

## INDUSTRY OVERVIEW

The following table shows the top five market players in terms of revenue in the mobile sports game market in the PRC in 2021.

Ranking	Company name <sup>(1)</sup>	Description	Number of mobile sports game and type of sports involved in the game in 2021 <sup>(2)</sup>	Revenue from mobile sports game in 2021 <i>RMB million</i>	Market share in mobile sports game market, 2021
1	Company A	Founded in 1998, it is a Chinese internet company headquartered in Shenzhen. It is listed on HKEx and it is also one of the world's largest social media companies.	Football (3); basketball (2); snooker (1)	1,341.3	23.1%
2	<b><i>Our Group</i></b>	<b><i>Founded in 2013, it is a Chinese game company headquartered in Shenzhen.</i></b>	<b><i>Football (2); basketball (1)</i></b>	<b><i>459.9</i></b>	<b><i>7.9%</i></b>
3	Company C	Founded in 1997, it is a Chinese internet company headquartered in Beijing. It is a listed company on NASDAQ.	Football (2); basketball (1)	458.6	7.9%
4	Company B	Founded in 1982, it is an American game company headquartered in Redwood City. It is a listed company in NASDAQ.	Football (2)	393.1	6.8%
5	Company D	Founded in 1969, it is a Japanese game company headquartered in Tokyo. It is a listed company in LSE.	Football (2)	334.3	5.8%
				Top 5	51.5%
				Total	100.0%

Source: Data.ai, Frost & Sullivan

Notes:

- (1) The identities of the competitors are not disclosed as the consents from these relevant competitors have not been obtained as of the Latest Practicable Date.
- (2) All the mobile sports games operated by Companies A, B, C and D are Model B games.



## INDUSTRY OVERVIEW

The following table shows the top five market players in terms of revenue in the mobile sports simulation game market in the PRC in 2021.

Ranking	Company name <sup>(1)</sup>	Description	Number of mobile sports simulation game and type of sports involved in the game in 2021 <sup>(2)</sup>	Revenue from mobile sports simulation game in 2021 <i>RMB million</i>	Market share in mobile sports simulation game market, 2021	
1	Company A	Founded in 1998, it is a Chinese internet company headquartered in Shenzhen. It is listed on HKEx and it is also one of the world’s largest social media companies.	Football (3); basketball (1)	926.0	25.0%	
2	<b><i>Our Group</i></b>	<b><i>Founded in 2013, it is a Chinese game company headquartered in Shenzhen.</i></b>	<b><i>Football (2); basketball (1)</i></b>	<b><i>459.9</i></b>	<b><i>12.4%</i></b>	
3	Company C	Founded in 1997, it is a Chinese internet company headquartered in Beijing. It is a listed company on NASDAQ.	Football (2)	408.5	11.0%	
4	Company B	Founded in 1982, it is an American game company headquartered in Redwood City. It is a listed company on NASDAQ.	Football (2)	393.1	10.6%	
5	Company D	Founded in 1969, it is a Japanese game company headquartered in Tokyo. It is a listed company on LSE.	Football (2)	334.3	9.0%	
				Top 5	2,521.8	68.0%
				Total	3,700.0	100.0%

*Source: Data.ai, Frost & Sullivan*

*Note:*

- (1) The identities of the competitors are not disclosed as the consents from these relevant competitors have not been obtained as of the Latest Practicable Date.
- (2) All the mobile sports simulation games operated by Companies A, B, C and D are Model B games.

## INDUSTRY OVERVIEW

The following table sets out the four basketball-themed simulation games launched in the PRC as at December 31, 2021 that have acquired IP right licenses from NBA and their respective market share by revenue in 2021.

Game	Description	Market share in mobile sports simulation game market in 2021	Revenue of the game in 2021 (RMB million)	Model of game
1. Game A	Game A was released in 2017 by a Chinese multinational technology company listed on the Stock Exchange.	11.7%	432.0	Model B
2. <i>NBA Basketball Master</i> (籃球大師)		4.7%	176.7	Model B
3. Game B	Game B was released in 2020 by a private game developer based in the PRC.	0.4%	15.6	Model B
4. Game C	Game C was released in 2019 by a private game developer based in the PRC.	0.1%	3.1	Model B

Source: *Data.ai, Frost & Sullivan*

Notes: The names of the competing games are not disclosed as the consents from these relevant game developers and/or publishers have not been obtained as of the Latest Practicable Date.

All these relevant basketball-themed simulation games in the PRC listed above are Model B games because, unlike Model A games, the game developers have incurred resources and capital to acquire or secure the IP licensing agreements with NBA to extend the lifecycle of the games.

The following table sets out the 14 football-themed simulation games launched in the PRC as at December 31, 2021 that have acquired IP right licenses from FIFPro and their respective market share by revenue in 2021.

Game	Description	Market share in mobile sports simulation game market in 2021	Revenue of the game in 2021 (RMB million)	Model of game
1. Game D	Game D was released in 2020 by a Chinese multinational technology company listed on the Stock Exchange.	17.0%	630.1	Model B
2. Game E	Game E was released in 2018 by a Chinese internet technology company listed on NASDAQ and the Stock Exchange	8.7%	321.3	Model B
3. Game F	Game F was released in 2018 by a Chinese internet technology company listed on NASDAQ and the Stock Exchange.	4.0%	148.4	Model B

## INDUSTRY OVERVIEW

Game	Description	Market share in mobile sports simulation game in 2021	Revenue of the game in 2021 (RMB million)	Model of game
4.	<i>Football Champion</i> (最佳11人 — 冠 軍球會)	4.0%	148.2	Model B
5.	<i>Football Master</i> (足球大師)	3.6%	135.0	Model B
6.	Game G	3.5%	128.5	Model B
	Game G was released in 2018 by a Chinese multinational technology company listed on the Stock Exchange.			
7.	Game H	3.3%	122.3	Model B
	Game H was released in 2015 by a Chinese multinational technology company listed on the Stock Exchange.			
8.	Game I	0.8%	28.1	Model B
	Game I was released in 2021 by a private game developer based in the PRC.			
9.	Game J	0.7%	25.3	Model B
	Game J was released in 2017 by a private game developer based in the PRC.			
10.	Game K	0.6%	21.1	Model B
	Game K was released in 2019 and jointly developed by a private game company based in the PRC and a Chinese internet technology company listed on NASDAQ and the Stock Exchange.			
11.	Game L	0.3%	10.2	Model B
	Game L was released in 2019 by a private internet technology company based in the PRC.			
12.	Game M	0.2%	6.3	Model B
	Game M was released in 2018 by a private internet technology company based in the PRC.			
13.	Game N	0.1%	4.2	Model B
	Game N was released in 2018 by a private game publisher based in the PRC.			
14.	Game O	0.1%	2.2	Model B
	Game O was released in 2020 by a private network technology company based in the PRC.			

Source: Data.ai, Frost & Sullivan

Notes: The names of the competing games are not disclosed as the consents from these relevant game developers and/or publishers have not been obtained as of the Latest Practicable Date.

All these relevant football-themed simulation games in the PRC listed above are Model B games because, unlike Model A games, the game developers have incurred resources and capital to acquire or secure the IP licensing agreements with FIFPro to extend the lifecycle of the games.

In 2021, our Company ranked second in the mobile sports game market in the PRC, in terms of revenue from mobile sports game, with a market share of 7.9%. In 2021, our Company also ranked second in the mobile sports simulation game market in the PRC, in terms of revenue from mobile sports simulation games, with a market share of 12.4%. In the same year, our Company ranked third in the online sports game market in the PRC, in terms of revenue from online sports game, with a market shares of 5.5%.

## INDUSTRY OVERVIEW

In addition to the PRC market, our Company has also expanded our footprint into various overseas markets, among which our Directors consider, based on the available market data and our overseas performance in 2021, Vietnam and South Korea as the most material overseas markets of our Group during the Track Record Period, where we launched our *Football Master* (足球大師) and *Football Champion* (最佳11人 — 冠軍球會). Among the football simulation games with IP right licenses from FIFPro, *Football Champion* (最佳11人 — 冠軍球會) ranked first with approximately 3.4% market share in the sports simulation game market in Vietnam in 2021. In addition, *Football Master* (足球大師) ranked second with approximately 2.4% market share in the sports simulation game market in Vietnam in 2021. Among the football simulation games with IP right licenses from FIFPro, *Football Champion* (最佳11人 — 冠軍球會) ranked third with approximately 0.8% market share in the sports simulation game market in South Korea in 2021. The rankings and market shares of *Football Master* (足球大師) and *Football Champion* (最佳11人 — 冠軍球會) among the top five football simulation games which have acquired the IP right licenses from FIFPro in Vietnam and South Korea in 2021, are set out below:

Game	Description	Vietnam		South Korea		Model of game <sup>(5)</sup>
		Ranking among football simulation games with IP right licenses from FIFPro <sup>(2)</sup>	Market share in sports simulation game market in 2021 <sup>(2)</sup>	Ranking among football simulation games with IP right licenses from FIFPro	Market share in sports simulation game market in 2021	
<i>Football Champion</i> (最佳11人 — 冠軍球會)		1	3.4%	3	0.8%	Model B
<i>Football Master</i> (足球大師)		2	2.4%	6	0.01%	Model B
Game R	Game R was released in 2016 by an American game company listed on NASDAQ.	3	2.3%	—	—	Model B
Game P	Game P was released in 2011 by a private game developer based in the UK.	4	2.0%	4	0.8%	Model B
Game H	Game H was released in 2015 by a South Korean game publisher listed on Tokyo Stock Exchange <sup>(3)</sup> .	5	1.8%	1	16.5%	Model B
Game D	Game D was released in 2020 by a South Korean game publisher listed on Tokyo Stock Exchange <sup>(4)</sup> .	—	—	2	9.7%	Model B
Game Q	Game Q was released in 2013 by a private game developer based in the UK.	—	—	5	0.7%	Model B

Source: Data.ai, Frost & Sullivan

Notes:

- (1) The names of the competing games are not disclosed as the consents from these relevant game developers and/or publishers have not been obtained as of the Latest Practicable Date.
- (2) The rankings and market shares are calculated based on the top up amount which is defined as payment made by the paying users and credited to the user's game account, and thus not audited.

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## INDUSTRY OVERVIEW

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- (3) Game H was also released in the PRC in 2015 by a Chinese multinational technology company listed on the Stock Exchange.
- (4) Game D was also released in the PRC in 2020 by a Chinese multinational technology company listed on the Stock Exchange.
- (5) All these relevant top five football-themed simulation games in Vietnam and South Korea listed above are Model B games because, unlike Model A games, the game developers have incurred resources and capital to acquire or secure the IP licensing agreements with FIFPro to extend the lifecycle of the games.

### COVID-19 PANDEMIC: INDUSTRY IMPACT

According to the Frost & Sullivan Report, the COVID-19 pandemic will not have any material adverse impact on the growth of online and mobile game market in the PRC and the world. On the contrary, it may boost the growth of online and mobile game market as part of indoor entertainment for self-quarantine during the outbreak of COVID-19. Frost & Sullivan confirms that the market forecast disclosed in this section has taken into account the impact of the outbreak of COVID-19. The online user activity is a significant indicator for assessing the online and mobile game market. According to China Internet Network Information Center, the average online user activity per week in the PRC increased from 27.6 hours in December 2019 prior to the widespread of COVID-19 pandemic to 30.8 hours during the outbreak of COVID-19 pandemic in March 2020 and then resumed back to 26.2 hours in December 2020. Therefore, the outbreak of COVID-19 pandemic in early 2020 in the PRC, to a certain extent, may have temporary favourable impact on the general level of the time users spend on online and/or mobile games as a whole as people may be compelled to stay indoors and opt for indoor entertainment in lieu of outdoor activities such as online and/or mobile games due to various lockdown measures implemented by the local governments. As of the Latest Practicable Date, the social distancing and various lockdown measures have been gradually removed by the PRC government, and it is expected that people may gradually spend more time on outdoor activities which may in turn reduce their average online gaming time. Nevertheless, the removal of social distancing and various lockdown measures is beneficial to mobile sports simulation games to the extent that if the real-life sports events return to normal schedule, the game developers would be able to synchronize its mobile sports simulation games with the actual events and development of the real-life sports world to maintain and boost the popularity of the games. In addition, sports fans would be able to participate in more offline gatherings and meet each other in person should the social distancing and various lockdown measures are removed, which may in turn strengthen their passions for such sports and accordingly spend more time on mobile sports simulation games.