The information presented in this section includes certain facts, statistics and data, derived from the iResearch Report, which was commissioned by us and from various official government publications and other publicly available publications, unless otherwise indicated. Our Directors believe that the sources of the information presented here are appropriate, including forward-looking information for future periods as identified, and we have taken reasonable care in extracting and reproducing such information.

Our Directors have no reason to believe that such information is false or misleading in any material respect or that any fact has been omitted that would render the information false or misleading in any material respect. Our Directors confirm that, after taking reasonable care, they are not aware of any adverse change in market information since the date of this commissioned report which may qualify, contradict, or have an adverse impact on the quality of information in this section. The information has not been independently verified by us nor by any of the Sole Sponsor, the [**REDACTED**]*, the* [**REDACTED**]*, the* [**REDACTED**] *and their respective directors, advisors, and affiliates and no representation is given as to its accuracy, completeness or fairness. The information and statistics may not be consistent with other information and statistics compiled or available from other sources within or outside the PRC. Accordingly, such information should not be unduly relied upon.*

SOURCE OF INFORMATION

Founded in 2002, iResearch is a leading provider of online user data and consumer insights in the PRC. Headquartered in Beijing and Shanghai, iResearch has a management team with over 400 employees worldwide and has accumulated extensive experience in researching and monitoring the development of the internet industry in the PRC.

We have commissioned iResearch to provide industry information on the PRC's Integrated Marketing Industry and have agreed to pay a fee of RMB580,000 to iResearch for the report. Our Directors are of the view that the payment does not affect the fairness of the views and conclusions presented in the iResearch Report. In compiling and preparing the research report, iResearch conducted primary research including interviews with industry participants. Also, secondary research, which involved reviewing industry publications, annual reports and data based on its own database, was conducted. iResearch presented the figures for various market size projections from historical data analysis plotted against macroeconomic data, as well as data with respect to the related industry drivers and integration of expert opinions. iResearch assumed that (i) the social, economic and political environment is expected to remain stable and (ii) key industry drivers are likely to continue to affect the market over the forecast period from 2019 to 2023.

GLOBAL MOBILE INTERNET MARKET

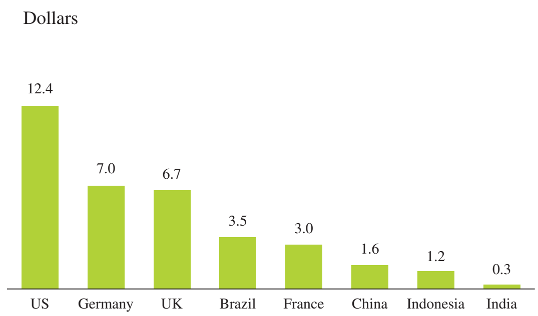
Overview

The proliferation of global mobile internet has developed significantly and the scale of mobile internet users has been increasing in recent years. According to the iResearch Report, in 2014, the worldwide population of mobile internet users was 2.4 billion and reached 3.6 billion in 2018, indicating a CAGR of 10.7%. The worldwide population of mobile internet users is projected to reach 4.4 billion in 2023, representing a CAGR 4.1%. According to the iResearch Report, the global mobile penetration rate increased from 32.9% in 2014 to 47.2% in 2018, and is projected to reach 54.8% in 2023. The penetration rates of internet users in Europe and the United States are relatively high, while in some regions such as Africa and Southeast Asia, the penetration rates are relatively low. In addition, the penetration rate in the youth is higher than that of the total population. Countries and regions with low penetration and rapid growth of youth population are expected to be benefited from the massive growth of domestic population in the future.

According to the iResearch Report, the scale of global smartphone users reached 2.66 billion in 2018, and will exceed 3 billion in 2020. The rising scale and penetration of global smartphone users reflects the foundation of overseas users with good hardware and equipment, which promotes the overseas users demand for more mobile internet products and services, and enhances the driving force of the development of PRC internet companies in overseas market.

At present, the average cost of mobile traffic in emerging countries is still low, among which the cost of mobile traffic in India is only $0.3 per GB. The relatively low cost of mobile traffic encourages users' usage of and spending in mobile internet products. Global internet traffic consumption continues to grow at a high speed, and the five-year CAGRs of mobile traffic consumption in all regions of the world are more than 35%. Among them, the Middle East & Africa, Asia-Pacific and Latin America are listed in Top 3, the CAGRs of mobile traffic are 56%, 49% and 43%, respectively. The following charts set forth the average mobile traffic cost by countries in 2019 and the CAGR of consumption of mobile traffic by regions from 2017 to 2022:

Average Mobile Traffic Cost per GB by Countries, 2019



CAGR of Consumption of Mobile Traffic by Regions, 2017-2022

CHINA'S AI TECHNOLOGY DEVELOPMENT

According to the iResearch Report, AI technologies in mobile internet industry are becoming mature and their applications include intelligent information distribution, precision marketing, information processing and content creation. The key technologies in AI include machine learning, knowledge mapping, natural language processing and computer vision. Machine learning, especially deep learning is the core of AI, which is the basis of machine analysis, reasoning and decision-making.

With the development of the internet and the increasing popularity of mobile devices, the increasing time spent on mobile devices results in the users' higher demand for more diverse and personalised mobile experience. AI technologies can accurately identify the classified user groups, and infer the users' preferences through quantitative analysis, thereby helping the app developers optimise products, improve users' experience, and distribute the tailored information to the users and helping the advertisers deliver customised ads to targeted users via their apps. In precision marketing, mobile ads are presented to users in different scenarios, such as search engines, streaming products, videos, and games, which can be calculated by intelligent analysis of multi-dimensional big data of AI algorithms. Equipped with AI capabilities, mobile internet companies strive to provide intelligent and creative marketing strategies and recommendations, and accurately target users in various scenarios and channels.

Additionally, unlike the traditional method of planning marketing campaigns, through the integration and analysis of the large amount of data by AI, mobile internet companies are able to generate marketing ideas of different forms and contents quickly according to different ad campaigns, whereby user's interests and demands can be better served, and the click-through rate and conversion rate of marketing campaigns can be improved.

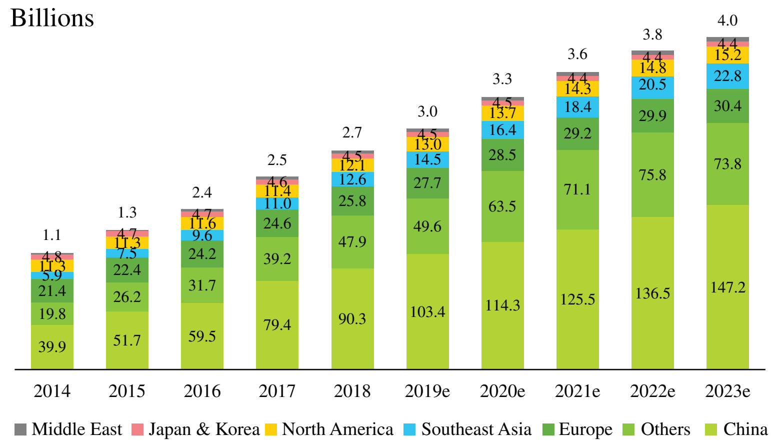
CHINA'S OVERSEAS MOBILE APP INDUSTRY

Global Mobile App Development

According to the iResearch Report, as an important channel for information distribution, the development of mobile apps is an essential business model in mobile internet industry. According to the iResearch Report, the scale of global mobile apps market, including the advertising revenue and in-app purchase revenue, increased from USD97.7 billion in 2014 to USD365.2 billion in 2018, representing a CAGR of 39.0%. It is estimated to continue growing at a CAGR of 20.7% from 2018 to 2023, and reach USD935.2 billion in 2023. In 2018, the total number of global app downloads reached 194 billion. The application of 5G mobile network around 2019 will further stimulate mobile users' demand for mobile apps.

As the extent of the development of mobile internet and infrastructure is different, the development stage of the app market in each country may be different. According to the iResearch Report, countries and regions with well-established app markets include China, North America, Europe, Isreal, Japan and South Korea has entered a mature stage of development with decreasing growth of downloads volume. At the same time, countries and regions, including Southeast Asia (such as Singapore and Indonesia), the Middle East, South America and Africa, are still growing steadily at a relatively high speed, which becomes the emerging markets of mobile internet and the new markets of China mobile apps' development overseas. The following chart sets forth total global downloads of mobile apps by regions from 2014 to 2023:

Downloads of Mobile APPs by Regions, World, 2014-2023E



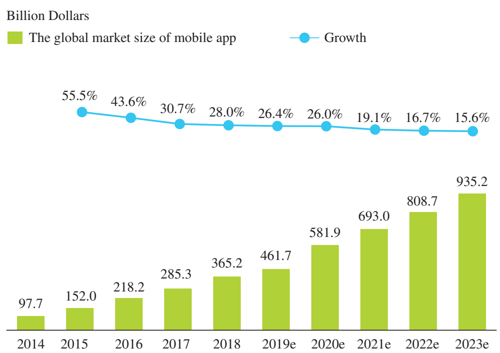
PRC App Developers' Global Expansion

According to the iResearch Report, a small number of utility apps developed by PRC internet companies were released in the overseas market around 2010. Subsequently, leveraging on their successful experience in China, the leading PRC internet companies began to expand their business overseas. With the increase of improvement of mobile device performance, there was a significant increase of the number of apps developed by PRC internet companies who engaged in and focussed on overseas market around 2015. Meanwhile, a number of small and medium enterprises emerged and positioned their target market overseas since their inception with more specialised apps including content and social networking apps, among others. According to the iResearch Report, in 2018, 40% of the TOP 50 PRC mobile apps' overseas downloads was games, 16% was tools and the rest include beauty camera, ecommerce, short videos & live streaming, contents and social network.

Scale of China's Overseas Mobile App Market

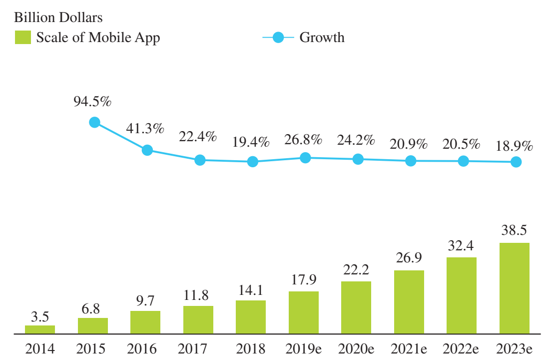
According to the iResearch Report, the scale of PRC mobile apps in the overseas market increased from USD3.5 billion in 2014 to USD14.1 billion in 2018, representing a CAGR of 41.6%. It is estimated to continue growing at a CAGR of 22.2% from 2018 to 2023, and reach USD38.5 billion in 2023. After the explosive growth from 2015 to 2016 with an annual growth rate of 41.3%, the growth from 2017 to 2018 maintained a relatively moderate annual growth rate of 19.4%. The popularity of PRC short videos and livestreaming apps in late 2018 in the overseas market further established the potentials in the overseas development of PRC mobile apps. At the same time, the incoming 5G era also creates a new opportunity for game products to harvest a new round of growth in the number of users and usage time. This market is estimated to maintain a growth rate of 18.9% by 2023. The following charts set forth the global market size of mobile apps and the overseas market size of PRC mobile apps from 2014 to 2023:

The Market Size of Mobile App, World, 2014-2023E



Note: Global Mobile App Market includes the advertising revenue and the revenue paid in-app.

Mobile App in the Overseas Market Size, China, 2014-2023E



Note: China Mobile App Market includes the advertising revenue obtained by PRC Mobile App outside China and the revenue paid in-app.

Key Drivers

According to iResearch, China's overseas mobile app market has the following key drivers:

- *Economy*: China mobile internet market is becoming more mature and begins to lead the trend of global market and PRC internet companies have strong financial capabilities after years of operation. The labour cost of software engineers in China is approximately one fifth of that of the European and the United States. In addition, the market size of global mobile app industry is continuously growing.
- *Society*: The upgrade of mobile communication services has contributed to the development of mobile internet in Southeast Asia, South Asia, South America and other regions. With the increase in the exportation of China's mobile devices, PRC mobile apps entered overseas market by pre-installation. In addition, overseas third-party app stores have orderly competition environment and transparent market rules.
- *Technology*: The competitiveness of China mobile internet industry created a number of technology-oriented internet companies with mature development and operation experience. The huge user base in China also enables such companies to achieve a relatively leading position in the development of server capacity for mobile apps.

Barriers to Entry

According to the iResearch Report, barriers to entry for China's overseas mobile app market include:

- *Technical barrier*. It is important to have competitive advantages in innovative product development and technical capabilities to compete with both PRC and overseas app developers and to excel in the competitive overseas mobile internet industry and acquire more overseas users.
- *Channel barrier*. In terms of distribution channels, developers should have an in-depth understanding of relevant policies and regulations, especially those published by App Store and Google Play. In terms of promotion channels, overseas media resources are concentrated on top media platforms. Access to their network platform has become the choice of most app developers overseas. Therefore, maintaining good business relationship and cooperation with such top media platforms is important for monetisation.
- *Capital barrier*. The marketing budget for promotion and user acquisition in overseas market is large. Further, it is helpful to establish localised operating teams, which also requires a considerable amount of capital investment.
- *Talent barriers*: The optimisation of products, user acquisition strategies and technology upgrade require talents with extensive technology background and experience.

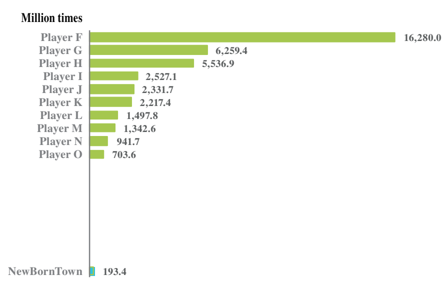
AI Application in Mobile Apps Development

With the gradual penetration of AI technologies in the field of information distribution, mobile app developers can make accurate content recommendation to users and optimise products in accordance with user feedbacks. AI technologies can improve the efficiency and accuracy of pushing content to target users, helping users access favourite content more conveniently and assisting content providers to acquire more loyal users. Further, with AI technologies, content producers and distributors can collect and analyse the user behaviour data on mobile apps in real time, dynamically adjust the distribution rules and marketing strategies. Additionally, the data collected can assist product development teams to optimise products and improve users' experience.

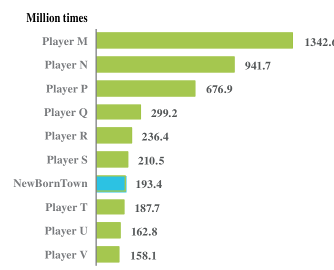
Competitive Landscape of China's Overseas Mobile App Market

The following charts set forth the rankings for PRC mobile internet companies in terms of the overseas downloads of proprietary apps in App Store and Google Play in 2018. According to the iResearch Report, our Company ranked the nineteenth in companies that have engaged in overseas business, the seventh in companies focussing on overseas business and the second in companies focussing on overseas market with a product portfolio including both games and apps of other categories.

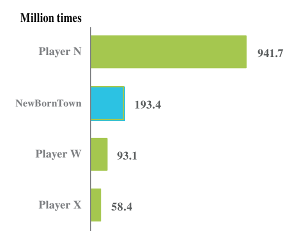
Rankings of PRC Mobile Advertising Companies Engaged in Overseas Business



Rankings of PRC Mobile Advertising Companies Focussing on Overseas Business



Rankings of PRC Mobile Advertising Companies Focussing on Overseas Business with a Product Portfolio Including Both Games and Apps of Other Categories



Note: Ranked by total overseas downloads excluding the downloads in the PRC.

The following chart sets out rankings of our featured launcher app, Solo Launcher, in terms of the number of countries and regions including France, Israel, Singapore and Brazil, among others, that ever achieved the best daily ranking by downloads for each indicated app category in Google Play up to 31 December 2018.

Highest Ranks[(1)] of Solo Launcher in Downloads (Google Play)

	App Category		
	Live Wallpaper (Applications)	Personalization (Applications)	Widgets (Applications)
Number of countries and regions – top 1 reached	31	89	1
Number of countries and regions – top 5 reached	101	101	67
Number of countries and regions – top 10 reached	101	101	85
Number of countries and regions – top 100 reached	103	103	101
Number of countries and regions – top 500 reached	103	103	101

Note:

(1) Highest Ranks refers to best ranking ever achieved.

The following chart sets out rankings of another our featured app, DIY Locker, in terms of the number of countries and regions including Germany, India, New Zealand and Argentina, among others, that ever achieved the best daily ranking by downloads for each indicated app category in Google Play as at 31 December 2018.

Highest Ranks[1] of DIY Locker in Downloads (Google Play)

	App Category				
	Overall	Applications (Non-game)	Live Wallpaper (Applications)	Personalization (Applications)	Widgets (Applications)
Number of countries and regions – top 1 reached	0	0	0	40	0
Number of countries and regions – top 5 reached	7	7	50	59	21
Number of countries and regions – top 10 reached	19	19	58	63	34
Number of countries and regions – top 100 reached	44	49	81	83	60
Number of countries and regions – top 500 reached	59	65	103	101	96

Note:

(1) Highest Ranks refers to best ranking ever achieved.

The following chart sets out rankings of Archery Champ, one of our games apps, in terms of the number of countries and regions including Spain, India and South Africa, among others, that ever achieved the best daily ranking by downloads iPhone in App Store for each indicated app category up to 31 December 2018.

Highest Ranks[1] of Archery Champ in Downloads (iPhone App Store)

	App Category	
	Overall	Games
Number of countries and regions – top 1 reached	2	3
Number of countries and regions – top 5 reached	4	22
Number of countries and regions – top 10 reached	10	45
Number of countries and regions – top 100 reached	92	133
Number of countries and regions – top 500 reached	141	151

Note:

(1) Highest Ranks refers to best ranking ever achieved.

CHINA'S OVERSEAS MOBILE ADVERTISING MARKET

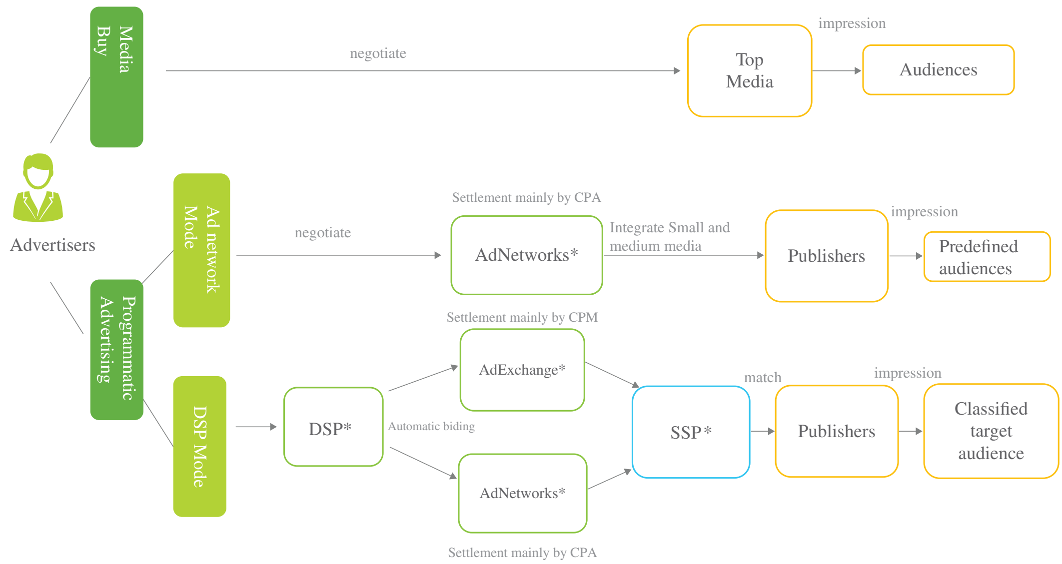
Overview

The development of the China's overseas mobile advertising market has been substantially driven by the improvement of mobile internet technology, optimisation of mobile content and increase in mobile traffic. The primary characteristic of the overseas mobile advertising is that the participants include overseas components. The two business models in China's overseas mobile advertising market include (i) PRC mobile advertising companies providing services to PRC advertisers for acquisition of overseas users; and (ii) PRC mobile advertising companies providing services to overseas advertisers for acquisition of global users.

According to the iResearch Report, global total media advertising spending increased from US$528.7 billion in 2014 to US$721.1 billion in 2018, and is expected to reach US$998.0 billion in 2023. In 2018, global mobile advertising spending reached US$187.9 billion, accounting for 26.1% of total advertising spending. It is estimated that the market size of mobile advertising will be approximately US$396.1 billion by 2023, accounting for 39.7% of the total advertising. Mobile advertising is mainly realised by apps, WAP, H5, content advertising, mobile phone system advertisements, etc., and mobile apps are the most important form of mobile advertising. As the mobile advertising industry develops, user acquisition and monetisation demands from app developers are becoming even stronger. Additionally, the development of programmatic advertising started around 2012 and is becoming increasingly prevalent.

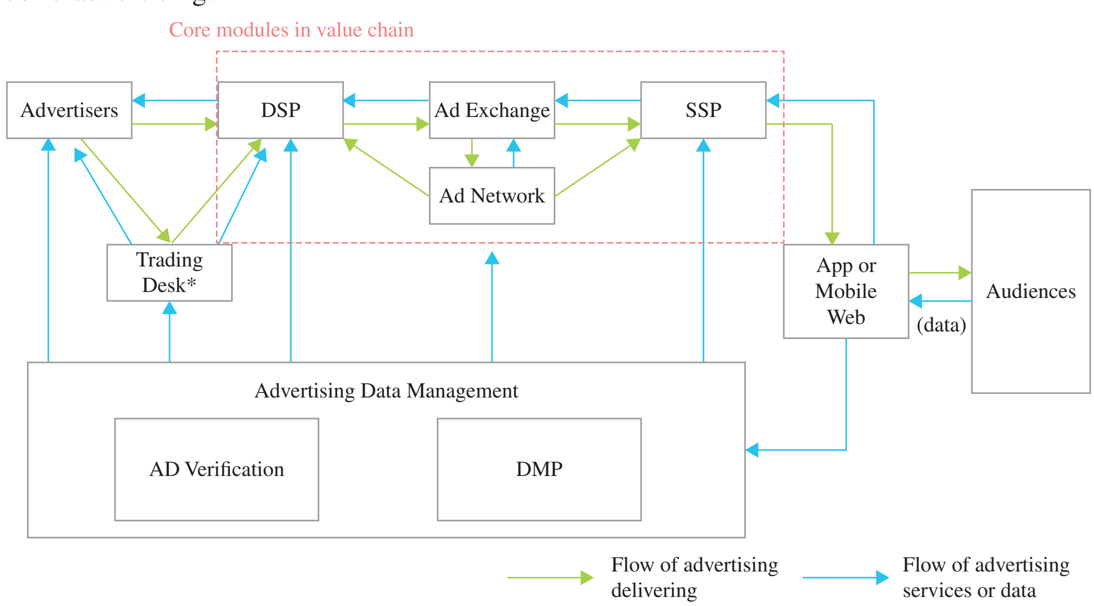
Industry Value Chain of Mobile Advertising Market

According to the iResearch Report, the key participants in the mobile advertising market are advertisers, advertising service providers, publishers and audiences. The two major patterns of China's overseas mobile advertising services are the programmatic mobile advertising service and the media buy service. Programmatic mobile advertising services are typically provided by the technology-based DSPs, SSPs, ad networks and ad exchanges which realise the ad delivery transaction in an automated way. Mobile advertising service provider also help advertisers purchase ad inventories in the media buy approach across multiple top publishers and initiate ad campaigns. The following chart illustrates the two major patters of the mobile advertising services provided by PRC mobile advertising companies:



Note: Provided by PRC mobile advertising services providers.

According to the iResearch Report, media buy service, as an intermediary service model, has a relatively low entry barrier as the top publishers monetise their ad inventories either non-programmatically or by connecting their API to the ad campaign systems of the advertisers. Programmatic advertising features the automated buying and selling of ad inventories. The core players of programmatic mobile advertising include the DSP, SSP, ad networks and ad exchanges. The following diagram sets forth the core players of programmatic mobile advertising:



Note: Trading desk usually integrates several DSPs to provide services for offline advertisers.

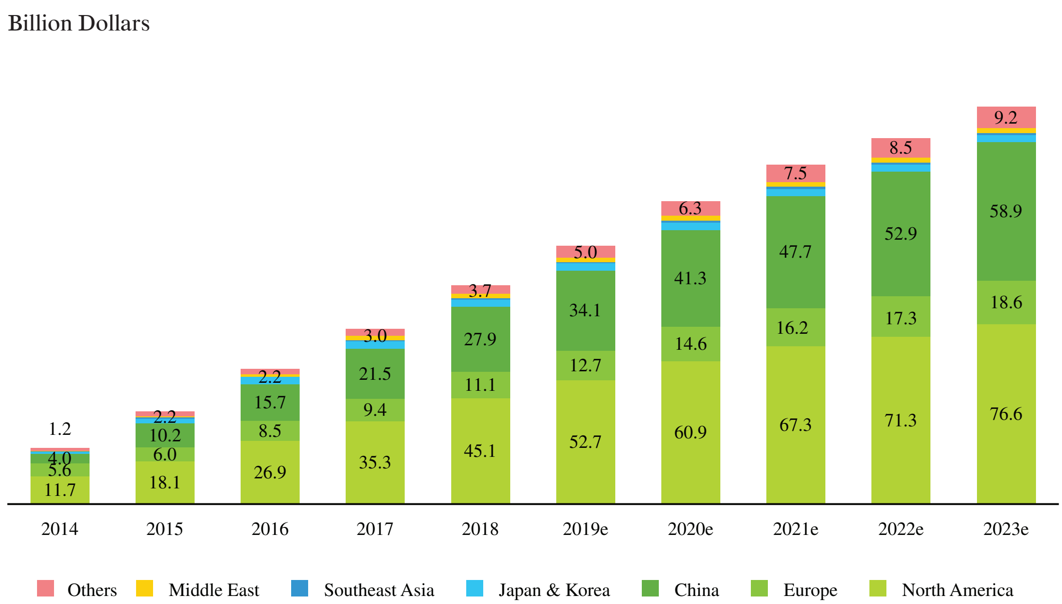
In the early development stage of the mobile advertising industry, programmatic advertising was restricted by technical reasons, such as unformed OpenRTB protocol, long response time on platforms and unsatisfactory server capacity. With the development of technology, programmatic advertising developed rapidly and it can improve the efficiency and performance of ad inventory transactions. Further, programmatic platforms can collect user data through SDK or API connection. With the data analytical technologies and regular adjustment on ad verification platform, programmatic advertising can monitor ad deliveries and reduce click fraud to protect the brands of the advertisers. Real-Time Bidding (RTB) is one of the core functions of programmatic advertising. The three main characteristics of RTB are media resource integration, real-time bidding and reaching classified target audience. Advertisers with the highest bid could buy the desired ad space and publishers could look for the highest market price for their ad inventories. Through automated trading of ad inventories at scale across a broad range of media resources, advertisers can bid for compatible ad spaces at reasonable costs. Programmatic advertising is realised via the RTB mechanism which allows the buying and selling of ad spaces online by real-time auctions that occur in milliseconds. RTB allows for targeting advertising, serving ads to users directly based on their demographic, psychographic, or behavioural attributes. It is expected that the proportion of programmatic advertising will still increase in the future.

Scale of China's Overseas Mobile Advertising Market

According to the iResearch Report, the development of China's mobile advertising services to overseas market started around 2013, which was slightly later than China's mobile apps' development overseas. The increase in the number of PRC apps in overseas market results in the demand for acquisition of global users, thereby creating a fast-growing market for the provision of mobile advertising services by PRC mobile advertising companies. According to the iResearch Report, the total advertising expenditure in China's mobile advertising overseas market increased from US$2.0 billion in 2014 to US$10.9 billion in 2018 at a CAGR of 52.8%, and is expected to reach US$35.8 billion in 2023 at a CAGR of 26.9% from 2018.

According to the iResearch Report, advertising spending by North American app developers remains the top among developers around the world, followed by PRC app developers. Additionally, mobile advertising spending in Southeast Asia is expected to grow significantly from less than US$0.2 billion in 2014 to US$2.29 billion in 2023. The following chart provides a breakdown of mobile advertising spending by region for the periods indicated:

Ad Spending by Mobile APPs Developers by Regions, World, 2014-2023E



Future Trends of China's Overseas Mobile Advertising Market

According to the iResearch Report, future trends for China's overseas mobile advertising market include:

- *A synergetic business model.* More and more mobile internet companies which have their own product matrix and marketing platform services are expected to emerge. This complementary strategy can integrate the data from mobile apps and mobile advertising services, help optimise and calibrate the algorithm models, further enhance the grasp of high-quality traffic and improve the mobile advertising services.
- *Increase in programmatic advertising.* Mobile advertising service providers will continue to increase their investment in products, technologies and data to develop their programmatic advertising platforms.

- *Reliance on big data and AI technologies.* The requirements on mobile advertising service providers' data collection and analytic capabilities will be higher. The publishers will have data with larger amount, richer dimension, and finer granularity. The value of such data will be further explored and utilised.

AI Application in Mobile Advertising

According to the iResearch Report, in mobile advertising, advertisers can only afford a certain number of ad auction requests. In order to increase the volume of advertising transactions and the revenue of advertisers, it is necessary to train and learn the ad delivery techniques by machine learning algorithm to gain insight into the characteristics of different users, and to analyse the needs of potential purchasing users, so as to determine which auction requests are more suitable for the advertisers. Through the application of AI technologies, when the number of advertisement auction requests stays unchanged, the profit of advertisers can be three to six times higher than that of the initial revenue, and the cost of server construction for purchasing users can be reduced.

Competitive Landscape of China's Overseas Mobile Advertising Market

According to the iResearch Report, the companies own both proprietary product matrices and mobile advertising platforms can realise multi-dimensional layout in its own media resources and multi-platform construction. Such business model can connect the massive data sources accumulated by the mobile apps with the mobile advertising platform, and deepen the value of data by AI technologies to improve the monetisation efficiency of mobile apps and achieve precision targeting. Additionally, the multi-platform system also helps to achieve synergy effects that help to enhance the profitability of its own business model and the companies can be less dependent on other platforms. The following chart sets forth the layout overview of the business lines of PRC mobile advertising companies focussing on providing mobile marketing services in overseas market up to the Latest Practicable Date:

Company	Ad network	DSP	Ad exchange	SSP	App matrix
NewBornTown	✓	✓	✓	✓	✓
Player A	✓	✓	✓	✓	
Player B	✓	✓	✓		
Player C	✓	✓			
Player D	✓	✓	✓		
Player E	✓	✓			

Note: The players in industry are selected by the following criteria: (i) headquarter is based in China ; (ii) main business is to provide mobile advertising services in overseas market; (iii) has proprietary programmatic mobile advertising platforms such as ad network, DSP, ad exchange and SSP.

According to the iResearch Report, as the connections with the publishers are through technical interfaces such as SDK, API and JavaScript, it sets a technology barrier for the mobile advertising service providers. Such technology barrier, including more reliable and available types of technical interfaces provided by mobile advertising service providers among others, lead to preference of cooperation from media, and larger amount of accumulated media resources accordingly. It is an important ability to integrate the traffic of publishers for a mobile advertising service provider in overseas market. The following chart sets forth the number of penetrated publishers connected to the mobile advertising platforms of PRC mobile advertising companies focussing on providing overseas mobile marketing services in 2018:

Company	Penetrated media (thousand)	Note
NewBornTown	**700+**	**Ad exchange**
Company C	450+	DSP
Company B	350+	Ad network
Company A	350+	Ad network
Company D	200+	Ad network
Company E	100+	Ad network

Note: The businesses include ad network, DSP, ad exchange, and SSP, and does not include media buy. Media refers to penetrated apps and mobile web covered by one of the proprietary platform excluding overlapping apps in 2018, the number disclosed is the highest amongst all proprietary platforms of a company and NewBorn Town's data was provided by our Group based on the performance of our ad exchange in December 2018.

According to the iResearch Report, the number of requests a mobile advertising platform receives will directly influence the effectiveness of ad impression, which in turn affects the platform's price settlement. The following chart sets forth the number of average daily requests from publishers for PRC mobile advertising companies focussing on providing overseas mobile marketing services in 2018:

Company	Bid Requests (billion)	Note
NewBornTown	**5.7+**	**Ad exchange**
Company C	4.5+	DSP
Company A	2.5+	DSP
Company E	2.2+	Ad network
Company D	1.5+	DSP
Company B	1.5+	DSP

Note: The businesses include ad network, DSP, ad exchange, and SSP, and does not include media buy. Average daily bid requests is calculated from publishers in December 2018, and the number disclosed is the highest amongst all proprietary platforms of a company.

According to the iResearch Report, top mobile apps (as advertisers) typically contribute to a large amount of advertising budget. One of the core competencies of mobile advertising service providers is the ability to reach and serve global top mobile apps. For the global top 100 advertisers in terms of global advertising spending in 2018, our Group provided mobile marketing services to 87 of them. The following chart sets forth the proportion of advertisers in global top 50 companies in terms of app downloads/paid revenues in 2018 for which the PRC mobile advertising companies focussing on providing overseas mobile marketing services provided services:

Company	Coverage of advertisers in top 50 global companies by number of downloads	Coverage of advertisers in top 50 global companies by number of revenue
NewBornTown	**37**	**38**
Company B	35	21
Company D	28	35
Company A	15	22
Company C	12	13
Company E	7	9

Note: The businesses include ad network, DSP, ad exchange, and SSP, and does not include media buy. The advertisers refer to penetrated served advertisers by company in 2018. Global top 50 companies are ranked by downloads or revenue of its apps matrix in 2018.