OTT Industry Development in China

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This is an era of rapid development and upgrading of the media. Technological innovation has promoted the application of Internet and intelligent technology in TV screens. Under the policy encouragement and regulation, the OTT (Over The Top) industry has grown more vigorously than ever before. With the steadily constant improvement of people’s consumption level, the new living room economy began to rise. This essay focuses on the key parts in the OTT industry chain. Through the analysis of the advantages and disadvantages of the OTT industry development, it finds the characteristics and existing problems. Combining the status quo, this essay gives the prospect of future OTT industry integration and the improvement of the comprehensive development level.

Keywords: OTT industry, TV screens, media convergence

Introduction

Current Ecosystem of OTT Industry

OTT is an abbreviation of “Over The Top”, which refers to an open Internet-based video service, without an operator of multiple cable or direct-broadcast satellite systems (Verbesselt, 2017). Unlike the communication services provided by operators, OTT only uses the operator’s network, and the service is provided by a third party. Using the Internet as a transmission channel to provide video services and interactive applications to home users through smart TVs or boxes, OTT, a general entertainment service offering content in more than a dozen categories and genres, breaks the high-level bonding of content and media, and delivers rich content to TV screens.

The content access and channels of TV screens are very diverse. According to the scale of users, Digital Video Broadcasting (DVB), Internet Protocol Television (IPTV), and OTT are the three most popular channel choices. Among them, DVB has a long-term market share because of its first-mover and policy advantages. However, in recent years, the price of cable TV is rising all year round because of digital transformation. Also, on-demand content needs to be paid separately, which leads to a relatively high consumption. In the case of increasing costs and slow service upgrades, unsubscribe rate has been getting higher and higher. With the severe user loss, cable TV is constantly being left out. As of the fourth quarter of 2018, the number of cable TV users was 233 million, with an annual net decrease of 21.396 million, a year-on-year decline of 8.7%, and negative growth accelerated (State Network released: “China’s Cable Industry Development Bulletin for the Fourth Quarter of 2018”, January 31, 2019). IPTV was delivered via a controlled network. The IPTV box occupies a market of 155 million households because it is usually paired with the operator’s network (Communication and Monitoring Coordination Bureau of the Ministry of Industry and Information Technology, 2019).

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“Statistical Bulletin of the Communication Industry of 2018”, January 25, 2019). Compared with DVB and IPTV, OTT is a new thing and is still in a period of rapid development. Due to its rich content, user-friendly operation, and high efficiency, it can quickly seize the TV screen market. In 2018, China’s OTT activated terminal equipment has reached 214 million, and the household penetration rate exceeds 52% (Aowei Mutual Entertainment, “China’s OTT Development Forecast Report 2019”, February 28, 2019). Due to the rise of Smart TV and apps, we will start to see the demise of the Set Top Box (STB).

Although the introduction of OTT has changed the hospitality television environment. This surge of more interactive and content-based services goes well beyond the linear content that traditionally has been offered to guests (Hertzfeld, 2017). As of December 2018, the total number of broadband access users above 100 M accounted for 70.3% of the total number of broadband users, and the number of fiber access (FTTH/O) users reached 368 million, accounting for 90.4% of the total number of fixed Internet broadband access users. In the fourth quarter of 2018, the average available download rate of fixed broadband networks in China was 28.06 Mbps, a year-on-year increase of 47.6% (China Internet Network Information Center, “The 43rd Statistical Report on Internet Development in China”, February 28, 2019). With the popularity and speed of the home network, OTT has a unique advantage in the development of a new living room economy market. Competed with the development speed of OTT, insufficient content resources and strict supervision have severely restricted the development of IPTV and DVB, which inevitably causes user migration. But at the same time, OTT is still slow in overturning the old market. OTT services tend to complement other ways consumers are fulfilling their video needs. To the consumer group that is unit with the family, the inertial action of TV is powerful. Elder audience and economically backward regions are often laggards in the diffusion of innovation, and the rate and extent of acceptance of new things is low. Therefore, DVB is still in a mainstream position in some regions, and the update process of the TV market is slow.

Whilst linear TV may remain the habit of choice for some audiences (Hochner, 2014), some TV audience enjoy the habit of “being arranged”, thus the live TV broadcasting still has a considerable attention market. OTT is emerging, while DVB and IPTV have their own strengths. The current TV screen market is showing a three-legged situation.
Economic, Technological, and Social Environments Promote OTT Development

Consumption upgrades provide a potential market for OTT development. From the perspective of national consumption levels, the consumption power of residents has steadily increased, pursuing high-qualified consumption. In 2018, the per capita disposable income of the national residents was 28,228 yuan. The per capita disposable income of urban residents increased by 6.5% compared with the previous year, and the rural growth rate was 6.6% (National Bureau of Statistics, “Residents’ Income and Consumption Expenditure in 2018”, January 21, 2019); the consumption power and willingness of residents have increased, resulting in the outbreak of quality life consumption. With the development of the economy, China is in the stage of consumption upgrading, and the requirements for the quality and experience of spiritual consumption are constantly improving. The traditional TV is mainly based on live broadcasting, limited by the characteristics of the channel; the richness and innovation of the content are insufficient. The OTT industry develops under the guidance of Internet thinking, enriches the boundaries of TV, and better meets the newly upgraded audience in terms of content and experience.

New technology promotes TV screen upgrades. The rapid development of technology has brought future imagination to the OTT market. 4K, AI, VR, and other technologies are rapidly combined with the OTT industry, which lead to the user experience of OTT significantly improved. Ultra-high-definition video enhances the cinema effect of home TV watching. AI voice remote helps simplify the in-room pairing process, and the efficiency of information acquisition is improved. VR and TV video games combine to present better interaction effects. There are numerous examples. The application of high-tech technologies such as big data, cloud computing, and programmed purchase improves the efficiency and potential of OTT marketing. User behavior is recorded in the form of data, and a unique portrait is obtained through calculation and analysis, and corresponding content and advertisement recommendation are obtained as feedback.

The policy encourages industrial development and the new living room economy awakens. In recent years, relevant departments have issued certain policies on Internet audio-visual content, TV boxes, and other related equipment, and constantly regulate the development of the OTT industry. Encouraged by the policy, a large number of entrepreneurs have entered the OTT industry chain, which has greatly accelerated the development of the whole industry. Nowadays, with the rise of the Internet generation, the post-90s generation (referring to the youth group mainly after the 1990s) has become the backbone of the society. The backbone group has a high degree of integration into the Internet, which promotes diversified consumer demand. The audiences of PC terminal and mobile video terminal return to the living room in pursuit of large-screen experience, bringing new opportunities for large-screen content and service consumption. In terms of audience rating, the audience rating behavior of non-live broadcast is increasing rapidly, and the consumer market of on-demand behavior and review-behavior has surpassed that of live broadcast. China’s OTT market is expanding, and fixed TV screen consumption is returning to upgrade. OTT promotes the new ecological construction of the video market.

The OTT industry has shown tremendous value, and large domestic Internet companies have entered the market. With strong capital strength and market share, Baidu, Alibaba, and Tencent have already completed their layout among the stream of OTT industry chain such as content, licensees, and terminals, moving ahead with an ambitious plan to put them all to good use amid the rise of over-the-top video consumption. At present, when the whole market is full of ideas, creative products continue to emerge, but the Internet giants have undoubtedly squeezed the living space of small manufacturers, and the market pattern has begun to appear preliminarily. The competition will be fiercer in the future.
Analysis of OTT TV Industry Chain

Currently, a closed loop has been formed in OTT market industry. The upstream content sources are divided into traditional TV media content and online content. The content is integrated and displayed on the Internet video platform, and then distributed through Internet TV licenses. As presentation terminals, box and smart TV complete the process of transmitting network video content to users through TV screen. Advertising services and copyright transactions run through all links.

Content Provider

The main content provider of OTT is video service applications on the Internet. Therefore, the source of video content is divided into two parts: traditional TV media content and online content. Traditional TV content is usually distributed to online video platforms after live TV broadcasts, and these applications also have selfmade and purchased content. In video service, users can download software applications such as Galaxy Kiwifruit, Cloud Aurora, CIBN Cool Meow Film and Television through OTT boxes or smart TV. They can watch the rich content of network video platforms such as IQIYI, Tencent, and Youku through TV screen. They can watch CCTV and Satellite broadcasts on multiple channels through Lightning Ultra Clear Live Broadcasting, and also watch live games and competitions through the game of fighting fish. By the end of 2018, the daily size of the Internet head-on platform, Galaxy Kiwi, CIBN, and Aurora, has reached 20 million units, and the overall growth of the ring data is on the rise.

In addition to providing video services, users can also download a variety of vertical applications. In the life-like application via OTT, there is “Dangbei Fitness” which can realize home fitness. “TV Taobao” extends online shopping to the TV screen. “Le-casting screen” can connect mobile devices and large-screen TV to realize video, pictures, and documents multi-screen content sharing, etc. In addition, OTT supports users to download TV version games such as JJ Landlords, Simi Mahjong, and the Three Kingdoms. The game details displayed on the TV screen are more vivid and clearer, and users are not prone to dizziness, which adds up to better game experience. Also, OTT can also download educational software to achieve family education. Children can read on TV, synchronize classroom teaching in primary school, and so on. With the help of big screen, the interaction between parents and children is more relaxed and interesting.

Licensee

In 2015, the State Administration of Radio, Film and Television released the “Internet TV Service Management Specification” and “Internet TV Integration Business Management Specification”. Each Internet TV must be bound with the integrated business license before it can be sold. The integrated business license authority (OTT license manufacturer) shall verify the legitimacy of the Internet TV program service platform it links to. At present, there are seven Internet TV licenses in China, China National Radio, China Radio International, Hunan TV, Southern Media, China Digital, BesTV, and CCTV International, which are the scarcest resources in the OTT industry chain. Under this policy, the upstream and downstream of the OTT industry chain are more closely bonded, and they have established relationships with licensees to ensure the legitimacy of content output.

Hardware Terminal

As a blue ocean of “Internet Plus” and living room economy, the OTT industry is developing in a rapid way, with smart TV (also known as “Internet TV” or “OTT TV”) and OTT set-top box (“box”) as its main terminal. By the end of 2018, the annual activation scale of OTT’s overall terminal reached 214 million units;
the monthly living scale was close to 140 million units; and the coverage rate of Internet TV households exceeded 40%. The number of cable TV subscribers is about 146 million, and IPTV activates 155 million subscribers. OTT grew into the largest entry point for user traffic in 2019.

From the use of terminal devices by network video users, the usage rate of smart TVs is 55.2%, network boxes 37.5% (China Network Audiovisual Program Service Association, “2018 China Network Audiovisual Development Research Report”, November 28, 2018). By the end of 2018, the number of smart TVs has exceeded 240 million units, accounting for 35.8% of the overall color TV scale (Aowei Entertainment, “2019 China OTT Development Forecast Report”, February 28, 2019). The intelligentization of TV has been completed by 1/3, and the growth of user scale provides the basis for large-screen marketing. Traditional TV brands and Internet companies have entered the OTT intelligent large-screen terminal production.

The explosion of OTT value is closely related to the installation of smart TV with high definition and large screen. Smart TV has high value performance, which provides a bigger value platform for OTT. Among the TOP5 growth rates of smart TV activation terminals at the end of 2018, the increment of high-end smart TV with 65 inches or above was 97% and 76% respectively (Aowei Mutual Entertainment, “2019 China OTT Development Forecast Report”, February 28, 2019); high-definition big screen is becoming an important market trend; the new living room economy is rising.

User

At present, the overall use and consumption of media shows a trend drifting from traditional functional media to intelligent media. 45.8% of network video users are no longer in contact with TV, radio, newspapers, magazines, and other traditional media, and 43.5% of the 50 and 60 generations have not used traditional media in the past six months. At the same time, online media become rigid demand of entertainment. More than 40 percent of users watch online video every day, and heavy users are mainly those aged between 30 and 39 in first-tier cities. The rise of middle-aged and elderly users aged 50 and above accounting for more than 40%, who become the mainstream audience.

In 2018, the number of active OTT terminals in the whole year was 81.08 million, and the number of active terminals in the week was 116.42 million, and the monthly active terminals were 137.79 million. OTT users have stable usage behavior, with an average of two power-ups per day for 4.8 hours. At the same time, OTT users have high stickiness. More than half of them use it for more than 20 days every month, and 21.4% of them turn on it almost every day every month, accounting for 62.9% of the users who spend more than 180 minutes. While maintaining rapid growth, smart TV continues to penetrate into the third-tier cities and below, and the growth rate of activated terminals in third-tier cities is the highest. By the end of 2018, smart TV activation terminals in the third-tier and below cities accounted for 63%. From the perspective of growth rate, the growth rate of the three-line, four-line, and first-line is around 30%. The second-tier cities have the highest activation scale, reaching 49 million. In terms of partitions, in East China alone, the number of smart TV activation terminals reached 65.83 million, accounting for 37.4%. Among the other six regions, the Central China, Southwest China, South China, and North China regions have the most similar scale around 20 million, while the northeast and northwest were lower, which were 8.6% and 6.3% respectively. The East China region was the highest penetration rate, reaching 40.5%.

In the choice of OTT terminals, middle-aged people with a tendency to consume households tend to choose smart TVs produced by traditional TV brands. Such people have the characteristics of high consumption
and high level of wealth accumulation. As their counterparts, a new class of over-the-top TV distributors is in the position with younger users, who tend to be individual, and are also interested in the consumption of luxury goods, high-end skin care cosmetics.

Advertisement and Information Service

2016 is called the first year of OTT marketing. In 2017, OTT advertising separated from other video media advertising as an independent digital advertising to advertisers, with the delivery reached 2.3 billion yuan. In 2018, OTT advertising continued to grow, reaching 5.5 billion yuan (Morketing, “Guizheng Data Chen Zhengxuan: OTT Advertising Market Will Exceed 10 Billion Yuan in 2019, But Also Faces Two Major Challenges”, January 24, 2019). At present, OTT’s advertising forms are divided into three categories: boot, patch, and other ads. The mainstream advertising format is forced to expose with 100% visibility. The placement of advertisements is in the mainstream among them. The startup advertisements are gradually encountering the ceiling, and the share of new resources such as screensavers, screens, and pauses is growing rapidly. With the expansion of non-boot resources, system advertising revenue will increase as a whole, while strong content advertising will contribute most of the advertising revenue. OTT has an active use of people and a better big screen experience. The media environment is credible, and has not been interfered by false data. Programmatic buying and performance monitoring highlight OTT advertising value, and the market space is huge.

Advantages and Disadvantages of OTT

Advantages Analysis

Massive content foundation. OTT has a huge amount of content from traditional TV media and Internet video platforms, which attracts attention with a wide range of video products, and has an absolute advantage in the competition for the audience, especially for the younger generation. In order to seize the users, the video content platform, with the help of capital, purchases the head copyright, produce selfmade films and television programs, and vertical thematic classification to bring a rich content experience to audience. In 2018, Tencent’s content cost reached 64.677 billion yuan, and in 2017 it was 46.799 billion yuan; iQiyi’s content cost in 2017 was 12.6 billion, and in 2018 it increased to 21.1 billion (according to Tencent and iQiyi’s 2018 annual financial report); Youku spent a lot of money to buy the new media live broadcast rights of the 2018 World Cup... The content suppliers represented by BAT present their video platform contents on cloud audio-visual aurora, galaxy kiwifruit, and CIBN cool miaow simultaneously through OTT, bringing huge development momentum for OTT. In 2018, the popular drama series “Yanqi Raiders” was broadcasted in iQiyi. Users can watch the Galaxy Kiwifruit on OTT through iQiyi, and enjoy more comfortable large-screen audio and video effects. Nowadays, watching Internet content from large screens through OTT has become a habit of young consumers. The number of large-screen consumers who cannot be reached by traditional TV media has been continuously upgraded. Compared with DVB and IPTV, content advantages have laid a solid foundation for the development of the OTT industry.

Reduced costs to upgraded experience. OTT access cost is low under the Internet transmission rule. With a smart TV or connected OTT box with ordinary TV or other large screens, users can enjoy all the services of OTT. Compared with DVB and IPTV, the experience is richer and more flexible, and has a higher cost performance. Relying on technical support, OTT can not only provide users with massive video consumption, users can also use voice search to reduce the cost. TV interactive entertainment products bring new definitions to the family living room scene and improve the satisfaction of TV use. In addition, OTT attract
the audience back to the living room with its strong visual impact and strong interaction as a spotlight. As a unique media terminal for home users, OTT takes the audience’s attention from personal mobile terminals such as mobile phones and computers re-transfer to the family, reshaping the living room scene, and reconstructing the family entertainment and communication mode.

**Family portrait to precision marketing.** The biggest problem faced by traditional TV media in advertising is that it is impossible to grasp the type of audience, which is equivalent to “casting a wide net”, and it is difficult to improve the marketing efficiency. OTT terminals use the Internet to return big data and obtain accurate portraits with the help of Internet data analysis tools, to overcome the shortcomings of traditional TV sampling survey ratings, reduce the cost and difficulty of data collection, and improve the accuracy of data, then optimize the portrait of TV end users, and form a constantly rich database. As a kind of “living room terminal”, the viewing unit is the family. It has the characteristics of one screen and multiple users, so the family-oriented delivery mode of user labels has become the mainstream of the industry. Through the establishment of industry labels, family consumption labels, and other means, the OTT usage behaviors of users are digitalized. Through the analysis of data, the behavioral preferences of large-screen users are mined, and the customized and accurate recommendation of content and advertising is achieved, so that the advertising and marketing of TV screens are more efficient and no longer monotonous. Combined with brand characteristics and user preferences, the advertisement space and content are comprehensively regulated. OTT ads reach users’ families accurately, and achieve the measurable exposure effect of the precise marketing of thousands of screens. In addition, OTT’s advertisements have the characteristics of forced exposure. The advertisements for interface switching such as boot, pause, and exit cannot be avoided, and the exposure is thus largely guaranteed.

Precise positioning of target groups and flexible delivery of multiple scenarios not only greatly improve marketing efficiency and achieve short-term economic goals, but also continuously accumulate user feedback in the form of data, which becomes the basis for subsequent industrial development. With the return and extension of the living room economy, the marketing value of OTT is further highlighted, and the potential market of 100 billion is still to be developed. The accurate touch of users has become a unique tool for OTT to expand the depth and stickiness of users, which has also profoundly affected the entire industry ecology.

**Disadvantage Analysis**

**Rights confusion and use threshold.** At present, China’s film and television copyright protection is still not perfect, and DVB, IPTV, and OTT are not clear enough in business division, thus there are loopholes in copyright management and waste of resources. Business issues and licensing rights are blocking widescale deployment. While a station may have over-the-air distribution rights, it may or may not have digital redistribution rights for OTT (Ramaswamy, 2018). At present, as the main source of OTT video content, each video platform pays more attention to the construction of featured content, and there are content barriers between platforms, which increases the cost of users to obtain content.

At the same time, with the continuous development of industry, the competition between OTT, IPTV, and DVB will rise to the next level. TV copyright will be tightened, and the threshold of using traditional TV media content in OTT will increase.

Compared with online content bouquet like various video APPs and rich PGCs and UGCs, online literature, micro-video, and other forms, OTT content richness and mobile consumption is still no better than
Internet platform and mobile terminal, and it is difficult to satisfy the personal vertical differentiation interests and concerns. The content update is also lagging behind, so OTT’s competitive edge in content is not outstanding enough.

From the perspective of interaction, the richness of OTT functions will inevitably lead to more complicated systems and remote control operations, and the learning cost is higher. As online content competition intensifies, some programs begin to implement membership, and OTT boxes need to pay for certain programs.

The characteristics of media products also determine that this consumption lacks exit mechanism, raises the threshold of use and the risk of payment, greatly reduces the experience effect of the audience who is accustomed to “free” TV watching, and also excludes the elderly who have relatively weak learning ability but have a large proportion of TV audiences. In addition, the unstable network speed, poor picture definition, stuttering and other issues also make OTT criticized, especially when watching live events, this problem is more prominent, reducing the market recognition of OTT.

Consider the situation from the perspective of average viewer. Exactly how the technical elements of a service are handled, and exactly how content is delivered to their screen, are irrelevant. The user no longer sees a content service in terms of OTT or not. All they care about is that their content is delivered quickly and efficiently. The demand from consumers is simple-giving them high-quality content, convenience, and a great user experience; they means scalable, flexible, agile, cloud-based environments (Verbesselt, 2017).

**Unstandardized data management.** One of the challenges still facing OTT is that there are no standards yet and much of this discussion is still ongoing within the industry; thus data mining is scattered. In recent years, the OTT business has achieved rapid development, and the business systems and business data of various enterprises in the industry chain have exploded, and marketing based on big data has emerged. However, due to the different construction time, type, and brand, these business systems have not been opened up. It is difficult to realize data sharing due to the inconsistent and unified standards of statistical data in all links of the industrial chain, which leads to the phenomenon of “data island”. Enterprises have different standards and qualification for data measuring, so it is difficult to evaluate the effect of OTT advertising, and to get accurate feedback for target audience identification and concentration measurement. Therefore, even if each enterprise has data feedback, the development of the entire industry is still in an incomplete state, and the OTT industry data ecology is still in the construction stage.

Enterprises grow in a barbarous way without seeing the benefits of data sharing, so it is difficult to explore the hidden value behind the big data of the whole industry. The lack of validity of data will inevitably lead to the waste caused by repeated investment and hinder the pace of industrial development.

**Mobile media market division.** With new technologies come new challenges, and as audiences expect greater quality and greater mobile customisation of services, broadcasters, content providers and solution providers are preparing themselves for a busy future (Hochner, 2014).

As mobile devices become more convenient to watch videos, the basic functions of the TV are replaced, and the overall operating rate is declining. Less linear consumption of TV content: In a busy society, the way TV is consumed has been changing as audiences play “catch-up” with their favourite TV programmes on their mobile devices, laptops, and TVs. With on-demand TV and associated apps making it easier to watch TV whenever and wherever you want to, and even the development of content specifically designed to be watched on a mobile or tablet device, like vertical screen play, webcast, and micro-video, mobile media divide seize potential market.
School students have limited time watching TV because of their busy study and strict parental control. Parents of school-age children are obliged to write homework or fear that television affects their children’s learning. The frequency of TV use is reduced, and they spend more time watching TV during weekends or housework. Students who are mainly based on collective dormitory life are seriously lacking the conditions for watching TV. At the same time, various applications such as pictures, texts, and videos in the mobile Internet environment are sufficient to provide them with the information and rich entertainment they need. Therefore, the younger generation of audiences represented by college students has gradually cultivated the habit of replacing TV with other media, and the user’s media usage preferences have changed. Even if they are in a TV-enabled scene, their dependence on TV is reduced, and the overall consumption time of TV is declining. Young people who are busy studying and working are more accustomed to using fragmented time to watch videos on their mobile devices, tablets, or laptops, which offer content that fills the niche market. Even if the TV has various functions, it is difficult to meet the requirements of fragmentation time in a fixed-space. The same information “swiped by phone” saves time and is more efficient than watching TV. In order to achieve long-term development, OTT still has to dig deep into the younger audience, the most competitive market for attention.

**Future Development Trend of OTT Industry**

**Convergence Development Ecology**

As a mainstream entry for large screens, OTT will have a greater impact in the future. In this process, it is necessary to continuously optimize all aspects of the industrial chain to build an OTT ecosystem, and promote the healthy and orderly development of OTT values. At present, all aspects of the OTT industry chain are still in the stage of exploration and development, and have not yet established an efficient development system. However, over-the-top services are migrating away from being complements to traditional pay TV services and toward outright replacements.

With the increase in the purchase of large-screen smart TV above 60 inches, the high-definition large-screen bringing a wonderful visual impact and mental experience will be more conducive to guiding consumers to cross-screen interaction and marketing.

It is a trend to create interactive experience of scenario marketing through cross-screen interaction between OTT and mobile terminals. In addition, OTT’s deep cultivation of the family market can derive more characteristic forms of activity and stimulate more potential value of O2O. OTT takes box and smart TV as landing terminals, and promotes the extension of upstream and downstream markets in the industrial chain and the horizontal expansion of value-added services. From online to offline, from the media industry to the whole industry, it leads the rise of the new living room economy.

In the long run, the trend of media development is not to replace each other, but to learn from each other and integrate with each other. The integration of resources and functions of TV screens will become a long-term development trend. Currently, there has been an attempt to integrate DVB/IPTV + OTT resources: In September 2018, gehua cable, a cable operator in Beijing, cooperated with iQIYI and baidu to launch an AI TV box “gehua xiaoguo” integrating live broadcast andvod functions. In June of the same year, based on its national cable TV network and IPTV platform, wasu media reached cooperation with youku in platform, operation, and content, realizing resource integration. This is the new path of the development of traditional television and the general trend of the convergence of Taiwan and the media.
At the 2018 Asia-Pacific OTT/IPTV Ecological Conference, Du Baichuan, deputy director of the science and technology commission of the state administration of radio and television, said that there will be some new changes in the country’s regulation of new content integration methods, user-generated content, live online health care, robotics, smart homes of the Internet of things and smart cities.

With the infiltration of integration steps, the technology, business, and supervision of DVB, IPTV, and OTT will increasingly converge in the future. Resources integration will be carried out to improve distribution efficiency and dissemination effect. TV screens will be used as media to realize the integration and development of industries.

**Strong Technological Support**

With the distinction between TV media and TV screen concepts, the TV industry will also reshuffle the rules. The popularity of OTT has made TV more and more a multi-functional interactive large screen, with display as a basic function, combined with other industries, government affairs, and social services to achieve integrated development. In this process, the emergence of new technology plays a huge role.

The combination of high-tech and OTT industry guides the industry’s efficient and high-quality development. Technology is effectively lowering the financial entry barriers to smaller and start-up broadcast and content providers. For TV screen, the upgrade of display technology can most intuitively improve the audience’s viewing experience.

AR and VR will bring interactive and immersive experience, while AI will go deep into all levels, whether it is visual experience, interactive design or advertising, which will bring subversive changes and strong competitiveness to OTT industry. In the future, with the application and promotion of 5G + 8K + VR + AI, which is a “standard” high-tech technology, OTT will fully attack in home theater and motion sensing games. The upgrade of projection technology will once again enrich the large screen, so that the large screen has more possibilities.

In the collection and feedback of user data, CSM Media Research cooperates with iQiyi and Tencent Video TV to conduct TV + OTT homology data measurement research. From “data island” to data integration, the OTT industry will be guided more efficiently and scientifically.

**Content Specification Improvement**

Copyright is still a major problem facing the development of the current OTT industry. In March 2018, the State Administration of Radio, Film and Television issued the “Notice on Further Regulating the Order of Network Audiovisual Programs” to further regulate the rights management of audiovisual programs. For the protection of content, cooperation in all links of the whole industry chain is required, and the upstream and downstream need to reach a unified standard. For content that is difficult to use directly, copyright purchasing can be considered, and selfmade content can be enriched.

In addition, due to the media characteristics of the TV itself, it is difficult to compete with new media devices in terms of interactivity and portability, so it is more important in the selection and arrangement of content. Although OTT has got rid of the time limit of linear programming, and can put forth a multitude of formats, but the display interface is limited, which is like video “department stores”; the plan is to create “unique boutique” OTT services. Therefore, the interface design should pay more attention to the needs of the TV screen audience and provide services that suit the screen.

**Rich Consumption Scenarios**

Additional consideration for OTT future development can be focused on further consumption scenario
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richness. It is not about filling programming gaps that are obscure or marginal, but talking about huge, impactful genres that the traditional networks are totally missing the boat on, which identify key genres that have tremendous value for consumers (Baumgartner, 2016).

The typical use scenarios are airline TV and hotel TV. Linear broadcasting is hindered by the particularity of aviation environment, so OTT has a potential market. Different flight routes can be matched with OTT content. For example, OTT can purchase overseas content on international flights, such as hulu, amazon, Apple TV, Netflix, etc., to combine excellent Chinese videos with foreign ones. Such scenes are more conducive to the spread of video to culture, but international copyright and other issues also need to be solved. Hotel is another OTT development scene with potential. The traditional linear content still remains, but hoteliers and manufacturers alike are crafting solutions to build more connected OTT services (Hertzfeld, 2017). OTT allows the guest to navigate and authenticate his or her smartphone or tablet and stream the content to the in-room TV. Because guests use the public network service, in order to ensure security, supporting facilities also need to be improved. A dongle is a small device able to be connected, especially to allow access to wireless broadband or use of protected software. OTT will become embedded service for airlines and hotels in the future, and explore more scenarios.

Diversified Profit Development

Though OTT has been very much in an infancy stage, but it is absolutely moving in a way that put itself in a pole position to control the future of television. Under the trend of multi-screen marketing, OTT will become more and more important as the center of the living room. With the growth of video paying users, there is a shortage of online video advertising inventory, thus OTT big screen will become the growth point of advertising, and the advertising model needs to be innovated. With the development of smart TV, advertisers have tried more and more AI voice advertisements, forming a small marketing trend. This form is not only advertising but also service, making full use of the characteristics of smart big screen, creating the most direct marketing method of advertising, service and sales transformation. The OTT function is constantly enriched, and there will be more advertisements waiting to be tapped. The OTT advertising ecosystem needs to be upgraded.

For a long time, TV has mainly earned revenue in the form of secondary sales, and OTT is no exception. Although OTT advertising as a new force in TV screens is accelerating, there are still predictable bottlenecks and ceilings. In the future, OTT’s profit model should be more diversified. It can increase the market increment through membership payment, and realize T2O through multi-screen interaction, and sell single object or packages. Moreover, it is necessary to directly seek the profit increment space in the OTT end and increase the revenue.

The advertising market is in the ascendant, and the overall business model of the media industry is shifting from an advertising-led model to a diversified profit model, while OTT is no exception. With the rise of audience status, we have to recognize that the consumer is in control, that they’re going to be choosing what sort of content they want, and on what terms they want to consume those options. Thus content makers are more eager to sell directly to consumers.

In the past, traditional TV was the center of the family living room, and now the OTT terminal consisting of smart TV and box has become the core of the home Internet. OTT naturally becomes the central position of the family scene in the form of large screen. After the AI voice is integrated, it will have strong intelligent
interactive properties, which can make it better to become the center of family life control, such as: forecasting weather, intelligently controlling other equipment, intelligent tutoring, smart medical, etc.

OTT can become a family terminal of the Internet of Things. In this context, daily services continue to access the TV screen. When you walk into your house, your cellphone will automatically connect to the television. The operational profit channels such as value-added services, e-commerce, and smart homes around OTT are in their infancy, which deserves market attention. Intelligent speakers, VR, and other large-screen peripherals will enrich user usage scenarios; intelligent recommendation + voice wake-up + call service application scenarios interactive marketing will also appear. “OTT+” will become a new key word in the media industry, and OTT market will be more diversified.

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