

# Internet TV Development: Current Landscape and Digital Media Technology-Driven Prospects

Chuhan Wang

School of Northeast Normal University, Changchun 130000, China

## Abstract

**With the development of science and technology, Internet TV (OTT TV) has gradually entered the public view. The article starts from the analysis of the current situation of traditional TV and OTT TV, and extends to the thinking of domestic Internet TV policy. At the same time, summarize several advantages of OTT TV, and introduce the value-added business, fragmented marketing and other key points to promote the development of Internet TV, as well as the development and expansion of the development of the field, and finally combined with the professional -- digital media technology, to objectively view the development of OTT TV.**

## Keywords

**OTT TV; integrated development; digital media technology.**

## 1. Research Background and Significance

### 1.1. Concept elaboration

Internet TV, namely OTT TV (Over the Top TV), refers to the TV form in which Internet companies pass over the operators, use the traditional Internet or mobile Internet as the transmission network, and take the TV as the receiving terminal, providing users with video and graphic information content services.

OTT TV is one of the products of the new era of science and technology development, in the rapid development of mobile phones, computers, the "living room TV culture" introduced to the public perspective, it is different from traditional TV, make people watch TV passive, but passive to active, make the audience can personalized to watch want to watch TV programs and video content, etc.

### 1.2. Research background

The emergence of OTT TV has had a huge impact on traditional TV, but it has also brought opportunities. "2015 Blue Book on the Development of China's OTT Television" pointed out that China's television industry is facing unprecedented major changes, in the context of the "Internet" era, with high-definition, intelligent TV as the basic attribute is gradually integrated with the Internet attributes, while changing the audience's viewing experience and habits, it is also reshuffling the entire industrial ecological pattern, the future development potential of China's OTT TV is endless, and the "14th Five-Year Development Plan" for radio and television and network audio-visual clearly states that It is necessary to accelerate the upgrading of OTT TV services.

#### 1.2.1. Prevailing Perspective: OTT Television's Ascent vs. Traditional Television's Developmental Dilemmas

The emergence of OTT TV has blurred the differences and boundaries of telecom network, broadcasting network and Internet, reflecting the trend of the integration of the three networks. Characteristics of OTT TV — convenience and personalized emergence, is determined by The Times, is the concrete embodiment of the progress of technology with The Times; in contrast,

traditional TV is relatively passive, mechanical fixed TV programs, transfer cost and other problems gradually prominent, sharpening. So in the general view, the traditional TV is in a dilemma.

### **1.2.2. Symbiotic Synergy: From Dichotomy to Inevitable Convergence**

OTT TV is still in the primary stage of development. Although the advantages are obvious, the profit model and development route are still being explored, and there are some immaturity, such as unlike traditional TV is easier to be accepted by the public, less promotion opportunities and so on. And the traditional TV is also actively exploring the way of progress after being impacted, rather than being content to the status quo. Traditional TV can use the emerging technologies of OTT TV, such as cross-screen interaction, to improve user satisfaction. And OTT TV can also take this opportunity to improve some of the shortcomings found, such as user appeal is not strong, the market is not open enough. Their mutually beneficial cooperation and development, integration and progress is an inevitable trend.

### **1.3. Research significance**

The significance of this article is to start from the current actual situation, temporarily abandon the introduction of traditional television, focus on OTT television, analyze several major elements related to the future development of OTT television, that is, domestic policies and attitudes towards OTT television, compared with traditional television, and the key points of development, will be from the perspective of digital media technology, on the basis of the existing field of experience, combined with the author's understanding to predict the relevant fields that OTT TV can be involved in the future, subjectively expound I Insights on the development of OTT TV.

## **2. Critical Analysis of Domestic OTT Television Policy**

### **2.1. Current Policy Landscape**

#### **2.1.1. Game between negative -- technology and policy**

The emergence of OTT TV has had a great impact on the radio and television industry. In the face of emerging technologies, the State Administration of Radio, Film and Television has opposed it at first and ordered the ban to prevent the development of OTT TV. The emergence of OTT TV, from the aspects of advertising revenue, audience viscosity shook the position of the traditional television, fatal impact on the radio and television industry, but bondage and control not TV industry is for a long time, the rhythm of the exhibition, believe that the traditional TV will early real transformation and innovation and development, and OTT TV will find a new development path under the adversity.

#### **2.1.2. Actively -- the new policy "three networks integration"**

The convergence of the three networks was proposed in 2010. The emergence of this policy has blurred the boundary between the telecom network, the broadcasting network and the Internet, and OTT TV and IPTV are related to the Internet. The emergence of the convergence of the three networks has brought development opportunities for the two kinds of TV, and OTT TV can be regarded as a new way of convergence. In foreign countries, the OTT TV industry has been further exploring the business model, and in Europe, the operators have completed the OTT layout. Domestic is also preliminary exploration development path, OTT TV a bright future.

### **2.2. Policy Dynamics and Strategic Implications**

#### **2.2.1. The two sides of the game**

For traditional TV, the use of monopoly to restrict the development of OTT TV is not a long-term solution. The development of science and technology is the rhythm of The Times, so traditional TV should be timely transformed. For OTT TV, this game is undoubtedly a fatal blow,

but the OTT TV survival in the cracks, accumulation, it is in this adversity to make "obey the leadership of the State Administration of Radio, Film and Television" the correct choice, recognized by the State Administration of Radio, Film and Television, the development of OTT TV has achieved immediate results.

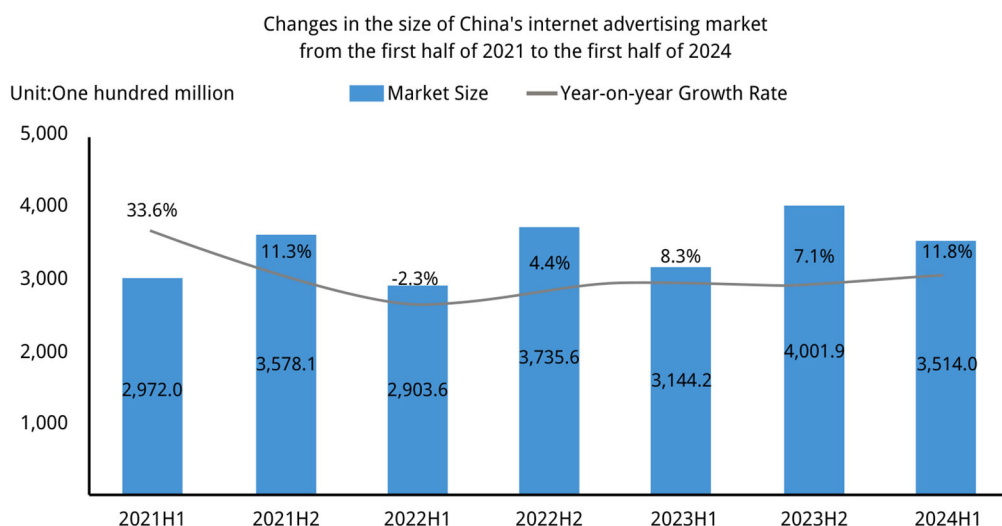
### 2.2.2. The obvious advantages of the Tri-networks integration

"Tri-networks integration" refers to the mutual penetration and compatibility of the internet, telecommunications network, and broadcasting television network, which, after technological transformation, gradually integrates into a unified information communication network. This network provides users with a variety of comprehensive services including internet, telephone, and television. It embodies the integration of industries in the information network sector, aiming to break down the industry barriers among the internet, telecommunications, and broadcasting television sectors, thereby creating a favorable policy environment for industry integration, while also providing favorable external conditions for technological innovation through increased competition. In 2010, the State Council issued the "Overall Plan for Promoting Tri-networks integration," making a strategic deployment for "Tri-networks integration" In 2015, the State Council issued the "Tri-networks integration Promotion Plan," proposing to "accelerate the nationwide promotion of three-network integration, and promote the interconnection and resource sharing of information network infrastructure," leading to the widespread promotion of "Tri-networks integration" across the country.<sup>[1]</sup>

## 3. Technology Development Path of OTT TV Development

### 3.1. Value-added services

OTT TV has a single revenue source, mainly based on providing content services, and users can obtain high-quality content by purchasing member services or watching advertisements. Taking this source of funds as a way of profit alone will restrict the development of OTT TV, so it is necessary to explore the source of profit and explore the value-added profit model of OTT TV.



Note: The estimation is made based on the advertising revenue data in the public financial report and the QuestMobile ADINSIGHT advertising insight database. Internet does not include: 1) LianYun and other channel cooperative fees (i.e., in-app advertising); 2) In-game advertising in-audio advertising; 3) The part of advertising revenue that contains commission.

Source: QuestMobile AD INSIGHT Advertising Insight Database June 2024, Marketing Insight Research Institute August 2024

**Figure 1.** Changes in the size of China's internet advertising market from the first half of 2021 to the first half of 2024

Advertising revenue. Advertising revenue is also one of the large funding sources of OTT TV at this stage. Users need to watch advertisements to obtain high-quality content, so they can attract investment and implant advertising. Cooperation with advertisers is of great benefit to both sides, both to increase the scale of OTT TV profits, and to help brands to expand the market in the emerging field of OTT TV. As can also be seen from the figure below, the scale of the Internet advertising market is gradually expanding, showing a good trend.

In addition, it also includes the cooperation with shopping platforms. The joining of shopping platforms such as Tmall and Taobao has helped the development of OTT TV. Online shopping, like watching videos online, is the basic form of contemporary people's use of the Internet. The combination of the two also highlights the inevitability of the development of OTT TV. It is believed that OTT TV will also bring new opportunities for shopping platforms in the future.

### **3.2. Utilizing fragmented time to achieve precise marketing.**

In today's era, people's lives are becoming increasingly fragmented. Television, as a terminal that has been continuously used for a long time, is gradually fading from the market, and the traditional dissemination model of television programs poses significant challenges. OTT television, on the other hand, can seize this business opportunity by utilizing its fast transmission characteristics to synchronize users' video viewing progress on television in real-time to convenient portable terminals such as smartphones and tablets. Knowledge fragmentation refers to the division of systematic knowledge content into smaller, discrete informational units to meet the demands of fast-paced information consumption.<sup>[2]</sup>

With the form of programs as the starting point, TV programs will be transformed from a longer program to a short video or short video highlights to spread. With the communication mode as the starting point, multimedia + multi-form communication. TV can transform the program and video content into other modes and spread it on more platforms to further expand the market. Such as a variety is very good, but the audience work schedule no large time to watch, the OTT TV operators can make variety show highlights graphic push form, weibo propaganda, can let the audience know the highlights of the program, set the suspense, attract customers have enough time to watch. Take the content as the starting point, pay attention to the details and highlights of the program. A TV series or a variety show on content must have a climax and relatively dull plot, so operators can according to the characteristics of the "personalized", analysis the user potential be fond of, custom for the user exclusive highlights, improve user engagement, this way will also be the OTT TV personalized characteristics show incisively and vividly.

### **3.3. Utilizing internet thinking**

Internet thinking is a way of thinking to re-examine the whole business ecology under the continuous development of the Internet and other technologies. The essence of the development process of the Internet is to make the interaction more efficient. Traditional TV pays attention to the brand and TV hardware, but OTT TV mainly opens up the technology market, which means that if you want OTT TV to stand out from the TV industry, you should abandon the traditional TV operation thinking and carry out its core "Internet thinking". Focusing on the development of Internet-related "big data", "multi-terminal" and other technologies, we can gradually expand the unique advantages of OTT TV.

For TV industry, the industry chain is by some lack of innovation change consciousness of traditional hardware manufacturers control, lead to the TV industry after more than half a century but no obvious innovation, it is difficult to follow the pace of modern life increasingly fast market demand, this will undoubtedly the industry development path more narrow, if not make major changes, it is difficult to retain user groups. But if the TV industry combined with the Internet, the traditional TV industry bloom new light, to a large extent affect the TV industry

price, value system, and intelligent household revolution, efforts to explore user demand, combined with the existing level of science and technology, the Internet Shanghai video and application resources into homes, for ordinary users bring virtual reality, body sense control and other high-tech achievements visual feast, this for the TV industry to open new user experience new mode, make TV become a new terminal interface.<sup>[3]</sup>

#### **4. Combining Digital Media Technology with The Development of OTT Television.**

From a technological perspective, digital media technology has infused OTT television with intelligent capabilities — artificial intelligence algorithms have optimized content recommendation systems, enabling personalized "one-thousand-audience, one-thousand-interfaces" viewing experiences. Computer vision and voice interaction technologies have redefined human-computer interaction paradigms, transitioning traditional remote control operations to more natural voice commands and gesture recognition. In the domain of content production, the permeation of digital media technology proves even more profound. Real-time rendering technologies have lowered the production threshold for high-quality animated content, allowing OTT television platforms to acquire exclusive content at reduced costs. Such technological empowerment not only transforms content creation methodologies but also reconstructs the entire content ecosystem — shifting from unidirectional dissemination to bidirectional interaction, and from standardized outputs to personalized customization.

The innovation of business models constitutes another critical dimension of this integration. The big data analytics capabilities inherent in digital media technology enable precision advertising delivery and dynamic pricing strategies. These digital innovations not only expand OTT television's revenue streams but also redefine its position within the broader digital media value chain. From an application scenario standpoint, this convergence is driving OTT television's evolution from a mere entertainment terminal to a household digital hub. By integrating multifunctional capabilities such as smart home control, remote education, and health management, OTT television is emerging as a pivotal node connecting diverse scenarios in digital life. This transformation not only extends market boundaries but also provides sustained momentum for technological iteration. Looking ahead, the continuous advancement of 5G, AI, and VR technologies will catalyze further innovative possibilities through the fusion of digital media technology and OTT television. Its impact will transcend mere industrial upgrading, ultimately reshaping media consumption habits and household digital lifestyles. This transformation is not a simplistic layering of technologies but rather a systemic innovation encompassing technological architectures, content paradigms, commercial models, and user behaviors.

#### **5. Conclusion**

To ensure the sustained development of the OTT television industry, it is imperative to conduct a critical examination of contemporary technological trends and market demands, thereby facilitating rigorous analysis of this emerging domain's current state. The future trajectory of OTT television is profoundly shaped by exogenous factors, including global megatrends and domestic policy frameworks, while endogenous imperatives hinge on technological innovation and content architecture. Technological advancement serves as the central driving force for industry progression, with the integrated application of cutting-edge technologies—such as big data analytics, high-bandwidth transmission, and VR/AR systems—poised to deliver unprecedented viewing experiences. Concurrently, the construction of personalized, high-quality content tailored to users' escalating and diversified demands remains a critical imperative for the sector's continuity.

From the disciplinary perspective of digital media technology, synthesized with in-depth exploration and domain-specific comprehension, the convergence of these domains will not only substantially augment the functional capabilities and application scenarios of OTT television but also engender more efficient, immersive, and user-centric living experiences.

In conclusion, I maintain an optimistic stance regarding the evolution of OTT television. It is my firm conviction that under the synergistic impetus of policy support, technological breakthroughs, and content innovation, OTT television will inaugurate a transformative epoch, redefining user engagement through unparalleled audiovisual paradigms.

## References

- [1] Pei Dan, Jiang Feitao. The Integration of Industries and the Efficiency of Innovation in the Era of Digital Economy: A Theoretical Model Based on the "Three-network Integration" of Telecommunications, Television, and the Internet [J]. *Economic Horizon*, 2021, (07): 85-93. DOI:10.16528/j.cnki.22-1054/f.202107085.
- [2] Hu Zhuanglin. Fragmented Era of Multimodality [J]. *Foreign Language Studies*, 2018, 35(5): 1-6, 112.
- [3] Hao Shuo. Research on the Development Model of Internet Television [D]. Huazhong University of Science and Technology, 2016.