Analysis of the Application of Innovative Technologies in Web-original Programs (Postprint)

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Abstract

"For the development of any new media, technological advancement is an indispensable factor that serves content and drives content innovation." As a relatively new media product, online self-produced programs are similarly influenced and driven by new technologies. In the past two years, the application of innovative technologies has been reshaping the content and form of online self-produced programs. Through an analysis of the technological application in self-produced programs on three video platforms—Tencent Video, LeTV Video, and Mango TV—this paper attempts to explore the characteristics of new technology application in self-produced programs, with the aim of providing constructive experience for the content production of such programs.

Full Text

Analysis of Emerging Technology Applications in Online Self-Produced Programs

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The "deep social interaction + live streaming + interaction" paradigm. Between 2016 and 2017, online self-produced programs maintained strong momentum, evident in both quantity and quality. Innovative technological forces have played an increasingly significant role in program production, with more self-produced programs employing new technologies in their production processes. Supported by these technologies, program formats have been innovated and content enriched. Through creators' refinement, new technologies represented by live streaming windows, data thinking, and quasi-interpersonal interaction have actively participated in the content production of self-produced programs, contributing non-negligible strength to their innovative development.

1. Live Streaming Window

Driven by developments in mobile communication technology and devices, video live streaming based on online platforms exploded in popularity in China between 2015 and 2017. With its entertaining, authentic, and rich characteristics, the live streaming content format attracted large numbers of users and generated high user stickiness. This broadcast format, which aligns with internet content production characteristics, has also garnered attention from major video platforms.

1.1 Normalized Application of Live Streaming

The "panorama + live streaming + social interaction" self-produced program format represents the type adopted by various video sites in programming for major events. In Rio Olympics programming, video sites leveraged the immediate information advantage of live streaming to launch panoramic Olympic coverage. Whether through "surprise" live streams of pre-departure training camps, collaborative tours of the Olympic Village with athletes before the opening ceremony, or important interviews at various competition nodes, video sites provided users with 360-degree event live streaming. After the competitions concluded, sites invited athletes in Rio to record related self-produced programs, capturing first-hand post-event developments. In addition to event live streaming, video sites also pioneered backstage commentary live streaming programs to analyze and comment on events. It can be said that video sites presented a new paradigm of "deep social interaction + live streaming + interaction" in their self-produced Olympic programming.

Beyond special programs, live streaming directly participates in the content production of regular self-produced programs. Various video sites have launched talent show-style self-produced programs featuring live streaming. These programs

adopt recorded broadcasting for audition rounds but transition to live streaming for elimination rounds. During live segments, real-time online popularity becomes a key factor determining contestants' results, and program-content-audience interaction becomes more real-time, creating an immersive viewing space for audiences.

1.2 24-Hour Live Streaming as a Program Format

Different from normalized live streaming, 24-hour uninterrupted live streaming represents another major innovation in online self-produced programs. Leveraging network advantages, programs conduct comprehensive, all-scenario live streaming. Using multi-camera, multi-angle setups, programs record multiple aspects of participants' lives, allowing users to observe every detail of contestants.

Various video sites' 24-hour live streaming programs adopt the format of large-scale life reality shows, conducting comprehensive live streaming of real-life scenarios in self-produced programs. In producing these programs, production teams employ over 100 360-degree full HD cameras and dozens of microphones to conduct 24-hour, comprehensive, dead-angle-free live streaming of participants online, striving to show audiences the most authentic and comprehensive participant performance. Audiences can select different live channels according to their preferences, participate in program progress from different perspectives, and vote to determine participants' retention or elimination. This adds interactive elements to the program, making it highly characteristic of the internet.

Such 24-hour live streaming programs greatly satisfy audience curiosity and "voyeuristic desires." Audiences can gain in-depth understanding of guests through their subtle behaviors, select live channels and viewing angles, and personally participate in programs in a personalized manner, increasing program immersion. Additionally, the live streaming format allows audiences to learn about program events and details in the first instance, bringing the pleasure of immediate information acquisition. The unscripted, unedited production method of live streaming pushes the "authenticity" in programs to the extreme, and topics triggered by live streaming are more attractive to audiences, more easily achieving the "nurturing" appeal. This format, impossible for traditional television programs, represents a new direction for online self-produced programs.

2. Data Thinking

The wave of informatization has brought humanity into a data-driven era, and self-produced programs made with big data thinking are highly innovative in format, content, and dissemination, endowing programs with new vitality. Online survey reality show programs launched by various video sites effectively apply big data to program content production, enabling format innovation.

In program production processes, big data surveys serve as the basis for program

content. Typically, programs leverage platform advantages to conduct extensive data statistics on users, deriving public opinions or feelings about certain matters. Subsequently, in program content settings, big data survey results either become quiz questions or key factors influencing game outcomes. Production teams also keep pace with current events, continuously launching new questions combined with news hotspots to follow trending topics. Big data truly becomes part of program content, even the main body of program content.

In programs, big data serves not only as the standard for judging game victories and defeats but also reflects people's lifestyles and attitudes in real society, becoming a decoder for understanding society. In a sense, big data is the soul of such programs. Big data can serve not only as the content core of self-produced programs but also as the basis for content adjustment and innovation on video platforms. Various video sites can comprehensively analyze massive amounts of user video viewing data to judge user content preferences and promptly provide this to program production teams. With the addition of such big data, not only can survey investments be reduced, but it can also help production teams make improvement plans, achieving communication between audiences and program design from certain perspectives.

3. Quasi-Interpersonal Interaction

Quasi-interpersonal interaction technologies represented by VR and drone filming provide new options for content creation on online video platforms. How to utilize these innovative technologies, combine them with program content production, and produce self-produced programs with stronger visual effects is currently the focus of content planning across video platforms.

In some self-produced programs, programs adopt a "live streaming + VR live streaming" dual-mode, allowing fans to have closer contact with contestants through VR live streaming. In the production of some talent show-style self-produced programs, from auditions to formal competitions, network live streaming is adopted, allowing hundreds of millions of netizens to participate in real-time in the idol development process. Among these, the introduction of VR technology has shown remarkable effects. VR live streaming presents 360-degree panoramic views of contestants' most authentic closed training states, allowing fans to observe their idols' competition daily routines from an unprecedented intimate perspective.

Although VR technology is not used throughout entire programs, the bold use of VR technology in programs provides more technical possibilities for online self-produced content production. In 2017, in developing new programs, various video platforms actively considered the application of innovative technologies. Technologies including VR filming, drone shooting, and AR have all made appearances in programs, testing new media technologies while creating more possibilities for the content formats of video platform self-produced programs.

In this new media era of rapidly changing media technologies, how to better com-

bine technology with content and make technology serve content is a question content producers need to continuously consider. As an internet-based content product, online self-produced programs are at the forefront of technological innovation, boldly trying new media technologies and achieving good results. The application of new technologies represented by live streaming windows, data thinking, and quasi-interpersonal interaction in programs has driven program content toward richer, more innovative, and more internet-oriented directions. In the future, more new technologies will be applied to the production process of self-produced programs, and the innovation of online self-produced programs will be boundless.

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Note: Figure translations are in progress. See original paper for figures.