

A Preliminary Analysis of Computer Technology Applications in Television Program Production in a Multimedia Context: Postprint

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Abstract

With the improvement of China's social and economic levels, computer technology has gained greater development space, achieved effective popularization in people's lives, and become an essential condition for the development of various industries. The introduction of computer technology into television program production has facilitated the production process, enhanced program quality, conferred competitive advantages upon television programs in current competition, enabled them to improve their status more effectively within the context of the current multi-media era development, and also provided better programs for the vast television audience. Taking this as the starting point, this paper analyzes the application of computer technology in television program production, aiming to provide certain reference for fellow professionals.

Full Text

Preamble

Analysis of Computer Technology Applications in Television Program Production in the Multi-Media Era

Abstract: With the advancement of China's socio-economic development, computer technology has gained greater scope for growth and become effectively 普及 in people's lives, emerging as an essential condition for development across various industries. The introduction of computer technology into television program production has served as a catalyst, enhancing program quality and providing competitive advantages for television in the current media landscape. This has allowed television to more effectively elevate its status against the backdrop of multi-media development while delivering superior content to audiences. This paper examines the role of computer technology in television production, aiming to provide valuable insights for industry professionals.

Keywords: computer technology; television programs; application

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In the new era, information technology has developed rapidly, playing a significant role across various industries and serving as an irreplaceable driver of China's economic growth while reducing manual labor requirements. The integration of computer technology has diversified television media characteristics and expanded program possibilities, delivering unique experiences to audiences. For instance, special effects produced using computer technology have enhanced program quality. Moreover, the current multi-media landscape has intensified competition for television media, and the adoption of computer technology can effectively strengthen television's competitiveness and increase viewership ratings. Therefore, the role of computer technology in television program production cannot be underestimated.

1. Challenges Addressed by Computer Technology in Television Production

Economic development has facilitated advances in information technology, and various information transmission media have rapidly captured the media market, providing audiences with more convenient and diverse choices. This allows people to enjoy various programs and share information in relaxed environments, improving the utilization of fragmented time. However, this has also impacted television media, compressing the 生存空间 of television programs and increasing production difficulties. Computer technology has effectively addressed several key challenges:

1.1 Addressing the Challenge of Immediacy

Due to its reliance on television as a broadcast medium, television programming is essentially a one-way communication model. This differs from other media platforms such as Weibo, WeChat public accounts, and other mobile applications that enable two-way information exchange, allowing audiences to interact and share their voices—an approach that resonates with modern audiences' desire for participation. Additionally, these interactive platforms leverage smartphones, tablets, and computers, making them more appealing to users. Consequently, television programs cannot match the interactivity of these platforms, hindering television's development. Computer technology enables television programs to integrate with platforms like Weibo and video streaming services, allowing audiences to watch programs in comfortable environments while sharing

their opinions anytime. This makes television more accessible to the public, enhances audience-program interaction, and promotes quality improvements in television content.

Television programs face significant limitations in immediacy compared to internet information transmission. In the internet environment, audiences are not merely information recipients but also information disseminators. Under this exponentially multiplied dynamic, online information transmission is extremely rapid, allowing audiences to receive breaking news and updates instantly. Television programs, by contrast, require journalists to search for stories, conduct interviews, and complete post-production before broadcast, reducing audience preference for television. The application of computer network technology can effectively shorten the timeline from interview to production. Journalists can use laptops to edit content on-site and transmit it back to the station via network connections, achieving true immediacy that allows audiences to receive information as events unfold and increasing audience engagement.

1.2 Addressing Content Monotony

Content monotony in television programs manifests in two primary aspects. First, television hosts must maintain a certain level of seriousness due to the nature of the medium, delivering programs through professional language that can create a sense of monotony for certain programs. Generally, television hosts represent the quality of their programs to some extent, which can affect ratings. Online program hosts, by comparison, are more relaxed, primarily focusing on entertainment and creating a cheerful atmosphere for audiences. Second, monotony stems from the programs themselves, such as news programs that must maintain seriousness, potentially causing audience fatigue. The introduction of computer technology enables more dynamic changes in program backgrounds and music, making content more relatable to audiences' lives. Additionally, incorporating lighthearted and interesting transition elements in hosts' presentations effectively alleviates the dull atmosphere of television programs.

2. Specific Applications of Computer Technology in Television Production

The content of television programs reflects a nation's economic level and citizens' comprehensive qualities. Current Chinese television programs and production standards lack sufficient humanistic care, resulting in content that lacks innovation and fails to properly guide public discourse. Therefore, as television professionals in the new era, we must innovate program content based on China's actual conditions, effectively integrate computer technology, develop distinctive television styles, improve program quality, and disseminate positive social energy.

The application of computer technology in image production for television programs improves both efficiency and precision, enabling staff to complete complex

graphic works in minimal time while enhancing visual accuracy. Technologies such as software like Moke (effectively integrating drawing and photography) ensure efficient film production and deliver more realistic visual experiences unattainable through manual methods. Computer technology enables more precise modifications to program images and audio while implementing automatic tracking and timely error correction during broadcasts, effectively preventing mistakes. This breaks the traditional television production dilemma of “multiple checks required before broadcast, no recourse during broadcast.” The application of computer-automated 3D tracking tools represents an effective marker of digital technology development and solves matching issues between filming equipment and 3D digital technology.

Computer-based 2D and 3D technologies also promote television production by making live effects in galas and other programs more spectacular while reducing costs. These technologies transform abstract images into intuitive visuals that greatly stimulate audiences’ senses and create memorable impressions. Furthermore, computer technology provides broader information sources for television production, offering staff extensive choices. Through search engines, producers can identify topics and news events of public concern, creating fresh and relatable content that further achieves information immediacy, effectively guides public opinion in the correct direction, and avoids potential negative influences.

3. Strengthening Computer Technology Integration and Capabilities

3.1 Enhancing Integration of Computer Technology and Television Creativity

The purpose of television production is to create emotional experiences for audiences, fostering resonance with programs and effectively guiding public opinion—all of which depends on audio and visual production as the pathway to program expression. While computer technology has improved television program quality, emotional transmission requires further effective integration of technology and television production. Only when computer technology incorporates the program’s emotional elements can the true meaning of television production be realized.

3.2 Enhancing Computer Technology Capabilities

Although China’s economy has developed rapidly in recent years, its computer technology level remains at a certain disadvantage compared to other nations. From the perspective of television production, despite significant improvements brought by computer technology, greater breakthroughs are still needed. Considerable computer technology remains incompatible with television production, preventing better audience experiences. Therefore, we must actively enhance computer technology capabilities and cultivate more professionals dedicated to television production to maximize the role of computer technology in this field.

Conclusion

In summary, computer technology plays an irreplaceable role in television program production and is essential for quality improvement. It provides effective support for the development of virtualization and networking models in television, helping the medium find its direction and methods. Integrating computer technology into program production demonstrates technological advancement and offers a pathway for television media to break through current multi-media competition. As television producers in the new era, we must recognize the importance of computer technology, continuously learn these skills in our daily work, actively improve our capabilities, and create excellent television programs for audiences, thereby enhancing television media competitiveness and contributing to the development of the television industry.

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

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