

# Post-Print: Morphological Construction of Human-Machine Symbiosis Through Upholding Fundamentals While Innovating in Broadcasting and Hosting in the Intelligent Media Era

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## Abstract

**Objective:** This study explores the construction of a “human-machine symbiosis” form that upholds tradition while fostering innovation in broadcasting and hosting in the intelligent media era.

**Method:** The research advances by examining the technological and ethical development status of the “human-machine symbiosis” form in broadcasting and hosting in the intelligent media era, as well as the urgency of its construction and relevant strategies.

**Results:** In the intelligent media era, the “human-machine symbiosis” form in broadcasting and hosting has achieved an organic integration of tradition-upholding and innovation. The emergence of virtual anchors enables 24-hour uninterrupted news broadcasting, rapidly responding to audience demands; advancements in speech synthesis technology make broadcast content more natural and fluent, enhancing viewers’ experience; the popularization of social media transforms ordinary users into content producers, driving the vigorous development of User-Generated Content (UGC). By integrating advanced technologies such as artificial intelligence, machine learning, and big data, broadcasting and hosting not only improves the efficiency of information dissemination but also enhances the richness and immediacy of content.

**Conclusion:** The human-machine symbiosis model not only enriches content diversity but also introduces real-time interactive elements, enabling audiences to directly participate in programs. Broadcasting and hosting professionals are not merely information transmitters but also active interaction facilitators. Leveraging big data analytics, broadcasting and hosting can gain deep insights into audience preferences, promptly adjust program content and style, and ensure close connections with viewers.

## Full Text

### Preamble

#### Constructing a “Human-Machine Symbiosis” Model for Broadcasting and Hosting in the Intelligent Media Era: Upholding Fundamentals While Pursuing Innovation

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### Abstract

**[Objective]** This paper explores the construction of a “human-machine symbiosis” model for broadcasting and hosting in the intelligent media era, focusing on upholding fundamentals while pursuing innovation. **[Methods]** The research examines the current state of technological and ethical development in this symbiotic model, analyzing the urgency of its construction and proposing corresponding strategies. **[Results]** In the intelligent media era, the “human-machine symbiosis” model in broadcasting and hosting has achieved an organic integration of tradition and innovation. The emergence of virtual anchors enables 24-hour continuous news broadcasting, rapidly responding to audience demands. Advances in speech synthesis technology have made broadcast content more natural and fluent, enhancing viewer experience. The proliferation of social media has empowered ordinary users to become content producers, driving the vigorous development of user-generated content (UGC). By integrating advanced technologies such as artificial intelligence, machine learning, and big data, broadcasting and hosting have not only improved information dissemination efficiency but also enriched content diversity and immediacy. **Conclusion** The human-machine symbiosis model not only diversifies content but also introduces real-time interactive elements, enabling audiences to directly participate in programs. Broadcasters are no longer merely information transmitters but active facilitators of interaction. Leveraging big data analytics, they can deeply understand audience preferences and promptly adjust program content and style to ensure close connections with viewers.

**Keywords:** Intelligent media era; Broadcasting and hosting; “Human-machine symbiosis” ; Upholding fundamentals while pursuing innovation

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In the intelligent media era, information spreads rapidly and efficiently, presenting unprecedented challenges and opportunities for broadcasting and hosting.

Confronted with diverse audience demands and intense market competition, the industry must maintain professionalism while flexibly adapting to technological innovation. This context has propelled the development of a “human-machine symbiosis” model that organically integrates tradition and innovation to enhance overall program quality and audience satisfaction, enabling continuous adaptation and development in the intelligent media landscape.

## **1. Current Technological Development of the “Human-Machine Symbiosis” Model in Broadcasting and Hosting**

As a crucial form of information dissemination, broadcasting and hosting is experiencing rapid technological development toward “human-machine symbiosis” in the intelligent media era. This evolution not only transforms traditional work patterns but also delivers entirely new audio-visual experiences for audiences. With continuous advancement in artificial intelligence, particularly in natural language processing and speech synthesis, the industry model is undergoing profound changes. AI technology enables machines to simulate human voice, emotion, and expression, allowing them to serve as broadcasters across news reporting, weather forecasting, entertainment programs, and other domains.

### **1.1 Speech Synthesis Technology in the Intelligent Media Era**

In the intelligent media era, many media companies have actively adopted high-quality speech synthesis technology to replace traditional broadcasters. For instance, AI-generated “virtual anchors” have been successfully deployed across multiple news platforms. These virtual anchors utilize advanced speech synthesis engines to simulate human vocal characteristics and emotional expression, making broadcast content more natural and fluent. Furthermore, virtual anchors can broadcast in multiple languages, significantly expanding audience reach. As technology progresses, more integrated symbiotic models combining AI and human broadcasters are likely to emerge, ushering the industry into a new developmental stage.

### **1.2 Personalized Content Recommendation for Broadcasting and Hosting**

With continuous improvement in AI technology, personalized recommendation systems have become increasingly prevalent in broadcasting and hosting. AI can automatically generate program recommendations tailored to audience needs by analyzing viewing habits, historical records, and interest preferences. This process involves deep mining of massive datasets and algorithmic optimization, enabling each viewer to receive customized playlists that enhance their viewing experience. Audiences can participate in content creation through feedback and evaluations, further influencing program development direction. This two-way communication makes content more audience-centric, ensuring programs can attract and retain viewers in a competitive market.

### 1.3 Real-Time Translation and Multilingual Support

In an increasingly globalized context, real-time translation technology opens new horizons for broadcasting and hosting content dissemination, enabling coverage of broader audiences. AI-driven voice translation technology, through precise language processing and rapid response capabilities, allows broadcasters to instantly translate news, entertainment, and educational information into multiple languages. Additionally, broadcasters can flexibly adjust expression methods and content according to different cultural backgrounds and audience needs, making programs more aligned with local tastes and further promoting content diversity and innovation. Consequently, real-time translation technology not only enhances information accessibility but also opens entirely new development directions for the broadcasting and hosting industry.

## 2. Current Ethical Development of the “Human-Machine Symbiosis” Model in Broadcasting and Hosting

The rapid development of “human-machine symbiosis” in broadcasting and hosting during the intelligent media era has simultaneously given rise to a series of ethical issues. These concerns involve not only the application of artificial intelligence technology but also the authenticity, transparency of information dissemination, and user rights protection.

### 2.1 Information Authenticity and Credibility

With the rise of virtual anchors and AI-generated content, information authenticity and credibility have become critical ethical issues. While AI can rapidly generate news and information, this capability may also lead to the spread of misleading information and fake news.

**2.1.1 Content Review Mechanisms** Faced with massive information generation, media organizations must establish rigorous content review mechanisms to ensure broadcast information undergoes thorough verification. This not only improves information accuracy but also enhances public trust in media. Simultaneously, broadcasters should possess relevant professional knowledge and ethical awareness to maintain impartiality and objectivity in information dissemination amid rapid media changes.

**2.1.2 Transparency and Audience Right to Know** While using AI to generate content, media must clearly inform audiences which content is machine-generated, thereby safeguarding their right to know. This transparency helps establish media credibility and enhances audience ability to identify information sources, making them more vigilant against potential biases and misinformation when obtaining information.

**2.1.3 Fake News and Prevention Mechanisms** With the development of social media, fake news spreads increasingly rapidly. It is necessary to establish robust prevention mechanisms that identify and label false information through technical means. Meanwhile, broadcasters need the ability to recognize and refute fake news to reduce the impact of misinformation on the public.

## **2.2 Professional Ethics and Responsibility**

In a “human-machine symbiosis” broadcasting environment, professional ethics and responsibility become increasingly important. How broadcasters maintain professional standards and ethical norms with AI assistance is crucial for sustainable industry development.

**2.2.1 Enhancing Professional Competence** With AI technological development, broadcasters must continuously enhance their professional competence, mastering not only traditional broadcasting skills but also understanding relevant technologies and their operational mechanisms. This knowledge updating enables them to better utilize technical tools, improve program quality, and maintain human unique expression and emotional resonance amid technological evolution.

**2.2.2 Ethical Responsibility in Content Creation** Broadcasters must bear ethical responsibility for transmitted content. When using AI to generate content, they should review and adapt program outputs to ensure alignment with public interest and social values. This sense of responsibility is reflected not only in quality control but also in audience guidance and influence.

**2.2.3 Ethical Considerations for Collaboration and Symbiosis** In the “human-machine symbiosis” environment, the relationship between broadcasters and AI requires reexamination. They must understand AI limitations and maintain human creativity and judgment in collaboration. Reflecting on the ethical issues of human-machine collaboration can help the broadcasting industry find new development paths where technology benefits human society rather than replacing human values and roles.

## **3. The Urgency of Constructing a “Human-Machine Symbiosis” Model in Broadcasting and Hosting**

Currently, the broadcasting and hosting industry faces unprecedented challenges and opportunities. With the development of emerging technologies such as artificial intelligence, big data, and social media, the “human-machine symbiosis” model is gradually taking shape. This transformation not only improves information dissemination efficiency and accuracy but also demands exploration of innovation while upholding fundamentals in content creation and dissemination methods.

### 3.1 Demand for Technology Empowerment and Content Diversification

Technological progress has brought profound changes to content presentation in broadcasting and hosting. Emerging technologies such as AI, machine learning, and big data analytics provide strong support for creating richer and more personalized content. Audience viewing habits are also shifting toward real-time and personalized experiences, requiring innovation to meet new market demands.

**3.1.1 Application of AI Technology** Advances in AI speech synthesis and image processing have made virtual anchors possible. These virtual anchors can broadcast news 24 hours a day and automatically generate content based on real-time data. This flexible broadcasting approach significantly improves information dissemination efficiency while presenting new challenges for traditional broadcasters, who must cooperate with AI and transform their work patterns.

**3.1.2 Enhanced User Participation** The rise of social media and live streaming platforms means audiences are no longer passive information receivers but active content production participants. Broadcasters must actively engage with and guide user-generated content, which not only enriches program diversity but also gives audiences greater sense of belonging. Effectively interacting with users to form a healthy communication ecosystem is an urgent issue for broadcasting and hosting.

**3.1.3 Multi-Platform Integration** In the intelligent media era, information dissemination is no longer limited to traditional television or radio but occurs through various social media and online platforms. Broadcasters must possess cross-platform communication capabilities, utilizing different media characteristics to enhance content presentation and ensure information reaches broader audiences. This requires innovation in content creation, breaking away from traditional single-mode broadcasting.

### 3.2 Strengthening Professional Competence and Ethical Responsibility

In the context of rapid technological development, professional competence and ethical responsibility in broadcasting and hosting are particularly important. As AI technology intervenes, information authenticity and authority face challenges, requiring broadcasters to maintain high professional standards to address resulting pressures.

**3.2.1 Enhancing Professional Competence** As technology continuously updates, broadcasters must constantly learn and adapt to new technologies, mastering knowledge related to big data analytics and AI applications to better

complete program planning and implementation. They need sharp judgment to identify authentic and important information within massive data streams.

**3.2.2 Following Ethical Norms** In the information dissemination process, broadcasters must strictly adhere to professional ethics, ensuring content authenticity and objectivity. In an era of rampant fake news, broadcasters are not merely information transmitters but also information filters and bearers of dissemination responsibility. They must be accountable for broadcast content to protect audience rights to know and choose.

**3.2.3 Maintaining Public Trust** Through rigorous information review and reporting, broadcasters should enhance public trust in media. This concerns not only individual careers but also the healthy development of the entire media industry. Good reputation and professional image will win broadcasters greater audience support and attention.

### **3.3 Adapting to Market Changes and Content Innovation**

Currently, audience demand for content is increasingly diversified, requiring the broadcasting and hosting industry to adapt to market changes through continuous content innovation to enhance competitiveness.

**3.3.1 Grasping Market Trends** As audience consumption habits change, particularly among younger generations preferring short videos and instant information, broadcasters must promptly adjust content strategies and launch new program formats that align with audience preferences. For example, integrating social hot topics, practical knowledge sharing, and highly interactive program formats can effectively attract and retain viewers.

**3.3.2 Building Branded Content** In fierce market competition, broadcasters must shape personal brands to enhance program recognition and influence. Through unique perspectives and expression styles, broadcasters can expand their visibility, making their programs “must-watch” content for audiences. Additionally, teamwork and cross-disciplinary collaboration are important pathways for brand building.

**3.3.3 Innovating Communication Methods** Beyond traditional broadcasting formats, broadcasters must utilize new media technologies to innovate communication methods. For example, combining AR/VR technology can provide more immersive experiences for audiences, or using short video dissemination to integrate traditional news with new entertainment content, bringing fresh experiences to viewers. Such innovation will further expand audience reach and increase program influence.

## 4. Strategies for Constructing a “Human-Machine Symbiosis” Model in Broadcasting and Hosting

In the intelligent media era, constructing a “human-machine symbiosis” model has become an urgent imperative for broadcasting and hosting development. Upholding fundamentals while pursuing innovation is the essential strategy for achieving this transformation. This paper analyzes the technological and ethical development status of the “human-machine symbiosis” model, examines AI applications in broadcasting and hosting, the impact of mobile internet and social media, information authenticity and credibility, user privacy and data security, as well as professional ethics and responsibility. It summarizes the urgency of constructing this model from three perspectives: technology empowerment and content diversification, strengthening professional competence and ethical responsibility, and adapting to market changes and content innovation. Finally, it proposes concrete strategies focusing on deep technology-content integration, user participation and community building, and professional competence and innovation capacity enhancement.

### 4.1 Deep Integration of Technology and Content

The rapid development of AI technology in the intelligent media era provides new possibilities for broadcasting and hosting. By adopting efficient speech synthesis, natural language processing, and data analysis technologies, broadcasters can collaborate closely with AI to achieve intelligent and personalized content.

**4.1.1 Application of AI Technology** With AI-generated virtual anchors, news can be broadcast 24 hours a day with real-time content updates ensuring timeliness and accuracy. This deep integration of technology and content not only meets audience information needs but also improves dissemination efficiency.

**4.1.2 Diversified Content Creation** In the “human-machine symbiosis” model, broadcasters can leverage AI’s data analysis capabilities to understand audience needs and preferences in real-time, thereby creating more attractive programs. AI can analyze massive viewing data to identify audience interest points, helping broadcasters adjust content direction, narrative style, and interaction methods. This data-driven innovation strategy enhances program diversity and increases audience engagement and stickiness.

**4.1.3 Personalized Recommendation Systems** Personalized recommendation systems represent another important form of technology-content integration. By analyzing user viewing habits and historical records, AI can push program content that matches their interests. This not only optimizes viewing experience but also provides broadcasters with new bases for adjusting content and style. Based on recommendation data, broadcasters can create programs

that better meet audience needs, thereby improving overall program quality and ratings.

## **4.2 User Participation and Community Building**

**4.2.1 Encouraging User-Generated Content** Social media development enables ordinary users to become content producers. Broadcasters must value and guide UGC creation. By setting up interactive segments and topic discussions to encourage audience participation in content creation, programs can be enriched while enhancing audience engagement and sense of belonging. This community-based operational model helps build good audience relationships and strengthen user loyalty.

**4.2.2 Strengthening Audience Feedback Mechanisms** Establishing effective user feedback mechanisms is key to realizing “human-machine symbiosis.” Broadcasters should pay attention to audience feedback, understand their views and suggestions on program content, and make timely adjustments accordingly. Through social platforms and online surveys, broadcasters can collect audience opinions to optimize program structure and content, thereby improving audience satisfaction. Active interaction with audiences helps build closer connections and form a healthy interactive ecosystem.

**4.2.3 Building Online and Offline Communities** To enhance audience community sense, the broadcasting and hosting industry should consider creating integrated online and offline community activities. Through offline meetups, audience interaction events, and online live streaming, broadcasters can communicate directly with audiences, listening to their needs and suggestions to further improve program quality. This two-way interaction not only enhances program attractiveness but also helps broadcasters better understand audiences and promote content innovation.

## **4.3 Enhancing Professional Competence and Innovation Capacity**

**4.3.1 Improving Technical Literacy** Broadcasters must improve their technical literacy and familiarize themselves with various emerging technologies, including AI, data analytics, and social media tools. By learning relevant skills, they can better adapt to industry changes and use these tools to enhance work efficiency and program quality. Improved technical literacy also facilitates collaboration with AI, maximizing the effectiveness of human-machine cooperation.

**4.3.2 Cultivating Innovative Thinking** Innovation is the core driving force for broadcasting and hosting development. Broadcasters need to cultivate open and innovative thinking, daring to try new content formats and communication channels. In content creation, they can apply cross-disciplinary knowledge, combining trends from different fields to create more influential and attractive

programs. Additionally, broadcasters should follow industry developments and keep pace with the times to quickly adapt to market demand changes.

**4.3.3 Strengthening Professional Training and Education** To comprehensively improve overall industry quality, the sector should enhance professional training and education for broadcasters. Corresponding training courses should be developed based on current industry technologies and trends to help broadcasters master necessary skills and knowledge. Simultaneously, training on ethics and professional norms should be strengthened, ensuring broadcasters always adhere to content authenticity and correct values while innovating, thereby providing audiences with high-quality information services.

## Conclusion

The “human-machine symbiosis” model in the intelligent media era is not merely a technological transformation but also a comprehensive upgrade of the broadcasting and hosting industry ecosystem. Through deep integration of technology and content, active user participation, and continuous enhancement of professional competence, broadcasters can achieve a true balance between upholding fundamentals and pursuing innovation. Future development should focus more on human-machine collaboration, ensuring that while technology improves efficiency, it also maintains the humanistic care and social responsibility of broadcasting and hosting. Only in this way can the industry remain invincible in fierce market competition and provide audiences with richer and more valuable content experiences.

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

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