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## Development and Application of an Evaluation Index System for Online Audio-Visual Programs (Postprint)

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### Abstract

Online audiovisual programs currently constitute the primary form of content consumption for audiences, and their quality is directly related to the development of China's new media. This paper constructs a multi-dimensional evaluation index system for online audiovisual programs, employs the entropy method to determine indicator weights, and conducts an assessment of eight representative domestic programs. The results indicate that 'Extreme Challenge' ranks relatively high, whereas 'If You Are the One' ranks relatively low.

### Full Text

#### Research on the Construction and Application of Network Audio-Visual Program Evaluation Index System

**Abstract:** Network audio-visual programs currently represent the primary type of content consumed by audiences, and their quality significantly impacts the development of China's new media industry. This study constructs a multi-dimensional evaluation index system for network audio-visual programs, employs the entropy method to determine index weights, and evaluates eight representative domestic programs. The results show that *Extreme Challenge* ranks relatively high, while *If You Are the One* ranks relatively low.

**Keywords:** audio-visual programs; index system; evaluation

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### 1.1 Factors Influencing Network Audio-Visual Program Quality

Network audio-visual programs refer to entertainment audio-visual content produced by production companies, online video teams, or individuals, with APP platforms as the primary distribution channel. As television audio-visual programs have matured domestically, and under the continuous development and influence of new media technologies, a series of imported foreign variety shows have become ratings guarantees for television stations. Simultaneously, online self-produced variety shows have emerged as a new competitive arena for major platforms. Due to their unique nature of being broadcast primarily online, audience word-of-mouth and video click-through rates significantly impact satisfaction with network audio-visual programs.

In considering these factors, this study draws upon the CCTV program comprehensive evaluation system and the China Television Satisfaction Boya Ranking selection criteria. Based on existing research and these standards, combined with the characteristics of network audio-visual programs, this paper evaluates audience satisfaction from eight dimensions: dissemination power, influence, audience orientation, professionalism, innovation capability, cultural taste, social value, and interpersonal word-of-mouth [2-9].

However, network platforms face a series of issues, including uneven program quality, lax platform supervision, and data fraud, which can cause audiences to lose interest and hinder the development of online programs. The Chinese government has attached considerable importance to this problem, issuing multiple regulatory documents such as the *Regulations on the Management of Internet Audio-Visual Program Services* and the *Notice of the State Administration of Radio, Film and Television on Strengthening the Management of Film and Drama Dissemination on the Internet*. The academic community has also paid significant attention, with scholars constructing evaluation systems from multiple dimensions. These include evaluation standards for network audio-visual programs led by radio and television authorities that emphasize social benefits while considering economic benefits, conforming to China's three major principles of media management: upholding the unity of Party spirit and people's nature, prioritizing social benefits, and adhering to Party management of media. Additionally, major commercial platforms evaluate programs through multi-dimensional data statistics including video play counts, search volume, comments, and external references [1].

### 1.2 Network Audio-Visual Program Evaluation Index System

Through literature review and synthesis of network audio-visual program characteristics, this study divides the influencing factors of network audio-visual program audience satisfaction into two hierarchical levels, with each primary factor further subdivided into secondary indicators based on its attributes. The specific hierarchical structure is shown in Figure 1 [Figure 1: see original paper].

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## 2.1 Data Sources

The data for this study were collected through social questionnaires distributed via Wenjuanxing. A total of 200 questionnaires were distributed, with 156 returned, of which 150 were valid.

## 2.2 Evaluation Method

This study employs the entropy method to calculate index weights. Since information entropy is equal in absolute value but opposite in sign to information quantity, greater variation in an indicator’s values corresponds to smaller information entropy and larger information quantity provided by that indicator. Conversely, smaller variation corresponds to larger information entropy and smaller information quantity [10]. The entropy method can calculate a comprehensive indicator based on the information quantity provided by each index. This approach determines index weights according to the amount of information each indicator conveys to decision-makers, representing an objective weighting method that avoids the subjectivity inherent in comprehensive rating methods such as the Analytic Hierarchy Process [11].

The specific calculation procedure is as follows: First, determine the entropy value for each primary evaluation index factor. Second, calculate the utility value (i.e., deviation degree) of each primary index—the greater the deviation degree, the greater its corresponding value and the larger the index weight. Third, determine the weight of each primary index factor. Finally, determine the weight of each secondary index factor based on its full score value.

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## 3. Empirical Analysis

This study selected eight representative Chinese network programs for evaluation: *Star Detective*, *Roast*, *The First Mediation Room*, *If You Are the One*, *A Date with Luyu*, *Singer*, *Extreme Challenge*, and *The Voice of China*. These programs target different audience groups and represent different genres, thereby enhancing the comprehensiveness of the survey and ensuring more reasonable results.

**3.1.1 Weight Calculation Results** The evaluation results show that *Extreme Challenge* ranks first in audience satisfaction among network audio-visual programs, followed by *Star Detective* in second place, *Singer* in third, *The Voice*

of *China* in fourth, *Roast* in fifth, *A Date with Luyu* in sixth, *The First Mediation Room* in seventh, and *If You Are the One* in eighth. Details are presented in the table below.

**3.1.2 Results Analysis** As shown in the table, *Extreme Challenge* ranks first in all indicators except cultural taste, innovation capability, and professionalism. Its strong performance in influence stems from two factors: first, the program enjoys good word-of-mouth and engaging content, resulting in high audience satisfaction; second, its regular cast members hold considerable influence in the film, television, and arts industries. Additionally, *Extreme Challenge* scores highly in audience orientation because, as a competitive variety show, it appeals to a broad demographic across age, gender, and regional differences.

*Star Detective* achieves high scores in innovation capability and interpersonal word-of-mouth. In terms of innovation, it stands alone in China in both subject matter and format. Its strong word-of-mouth results from well-crafted plot designs, overall style, and pacing that make each episode highly engaging. However, *Star Detective* scores relatively low in social value because, as a crime-solving program, it sometimes contains violent or frightening scenes that may not promote positive energy, although recent episodes have added concluding discussions on positive values, representing a positive development.

*Singer* scores highly in professionalism and word-of-mouth. As a flagship program of Hunan Satellite TV, it features a top-tier production team and professional performers aligned with the program's positioning. As a competition showcasing China's most talented singers, it provides audiences with a feast for the ears and eyes amid the declining Chinese music scene, earning excellent word-of-mouth. However, its innovation capability requires strengthening since the program purchased Korean copyright and has not introduced better competition systems or presentation methods in recent seasons.

*The Voice of China*, *Roast*, and *A Date with Luyu* rank in the middle, indicating balanced performance across all dimensions. Similar to *Singer*, *The Voice of China* attracts audiences through professional singing performances, but its innovation capability is relatively low due to its talent show format. However, many adapted classic songs and lesser-known original works have gained excellent dissemination through the program, resulting in strong dissemination power.

*Roast* primarily features stand-up comedy combining hot topics and guest characteristics, making it highly entertaining and appealing across gender and education levels, thus scoring high in audience orientation. However, it scores low in cultural taste and social value because its focus on roasting involves relatively little promotion of positive themes, representing an area for future improvement.

As a long-established talk show, *A Date with Luyu* has not introduced significant changes in format, type, or content, resulting in low innovation scores. However, as an established program, it elevates themes through interview content, con-

cluding with summaries promoting positive values such as diligence and hard work, thus achieving high social value.

*The First Mediation Room* is a television program with legal effect for resolving conflicts and disputes. Its scores across all dimensions are relatively low, particularly in audience orientation and dissemination power—the lowest among the eight programs. This is primarily because the program focuses on resolving social conflicts, which may not resonate with male, highly educated, or first-tier urban audiences who may not encounter such issues in their lives. Nevertheless, it achieves relatively high social value by addressing real problems for certain individuals and promoting legal knowledge, tolerance, and integrity during the problem-solving process.

*If You Are the One* is a dating show with poor scores across all indicators, ranking lowest in professionalism, innovation capability, cultural taste, social value, and interpersonal word-of-mouth. First, as a dating program with an established format and no changes in presentation, its innovation capability is low. Additionally, some guests have displayed materialistic and incorrect views on marriage, resulting in low scores for cultural taste and social value. The program was also embroiled in scandal when it was revealed that some participants were actors rather than genuine individuals, causing its reputation to plummet. However, it demonstrates good dissemination power because it is available on three major platforms, broadcast on satellite television, and receives substantial promotion from the TV station, resulting in strong ratings performance.

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#### 4. Research Conclusions

Network audio-visual programs constitute an important component of new media development, and their quality significantly impacts the future direction and quality of new media development. This study constructs a multi-dimensional evaluation index system and employs the entropy method to determine index weights, evaluating eight representative domestic variety shows. The results show that *Extreme Challenge* achieved the highest comprehensive score of 3.8009 and ranked first in satisfaction, with strong performance across all indicators. *If You Are the One* scored 3.1125, ranking lowest eighth, with low scores across all indicators. Other programs demonstrate varying strengths and weaknesses across different indicators. Overall, China's network audio-visual programs are in a stage of vigorous development with tremendous potential. With proper guidance, new media can play a greater role in the cultural industry.

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

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