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OPTIMIZING SOUND DESIGN IN RADIO PROGRAM PRODUCTION TO INCREASE BROADCAST ATTRACTIVENESS

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Abstract

The development of audio technology and the growing competition among digital media platforms have compelled radio stations to continuously innovate in producing engaging and high-quality broadcasts. One key aspect in creating broadcast appeal is the optimal application of sound design. This study aims to analyze the role and strategies of optimizing sound design in the production of non-news radio programs, as well as to explore how sound elements such as jingles, bumpers, sound effects, and background music contribute to enhancing the listening experience. This research employs a qualitative approach using a case study method at a selected radio station in Jakarta. Data were collected through in-depth interviews with producers, audio engineers, and listeners, as well as through direct observation of the production process. The findings reveal that creatively and consistently designed sound elements strengthen program identity, build emotional atmosphere, and increase listener engagement. The optimization of sound design depends not only on technical proficiency but also on the production team's ability to understand the audience's characteristics and the program's context. Therefore, sound design serves as a strategic component in enhancing the aesthetic and emotional value of radio programs in the era of media convergence.

Keywords: *sound design, radio production, non-news program, broadcast appeal, audio media*

Abstrak

Perkembangan teknologi audio dan meningkatnya persaingan media digital menuntut stasiun radio untuk terus berinovasi dalam menghadirkan siaran yang menarik dan berkualitas. Salah satu aspek penting dalam menciptakan daya tarik siaran adalah penerapan *sound design* yang optimal. Penelitian ini bertujuan untuk menganalisis peran dan strategi optimalisasi *sound design* dalam proses produksi program radio non-berita, serta bagaimana elemen-elemen suara seperti *jingle*, *bumper*, efek suara, dan tata musik berkontribusi terhadap peningkatan pengalaman mendengarkan. Metode penelitian yang digunakan adalah pendekatan kualitatif dengan teknik studi kasus pada salah satu stasiun radio di Jakarta. Data diperoleh melalui wawancara mendalam dengan produser, teknisi audio, dan pendengar, serta observasi langsung terhadap proses produksi program. Hasil penelitian menunjukkan bahwa *sound design* yang dirancang secara kreatif dan konsisten mampu memperkuat identitas program, membangun suasana emosional, serta meningkatkan keterlibatan pendengar. Optimalisasi *sound design* tidak hanya bergantung pada aspek teknis, tetapi juga pada kemampuan tim produksi memahami karakter audiens dan konteks isi siaran. Dengan demikian, *sound design*

menjadi elemen strategis dalam meningkatkan daya tarik dan nilai estetika program radio di era konvergensi media.
Kata kunci: *sound design*, produksi radio, program non-berita, daya tarik siaran, media audio

I. INTRODUCTION

The development of digital technology has significantly changed the landscape of the media industry, including radio. Amidst the emergence of digital platforms such as podcasts, music streaming, and social media, radio is required to innovate to remain relevant and competitive (Priana, Sjuchro, & Fitriana, 2025). This adaptation involves not only content and format, but also technical and aesthetic aspects of production, one of which is through optimizing sound design.

According to Yudhapramesti (2023), media convergence practices have encouraged radio to combine the power of traditional audio with creative approaches based on digital technology. Radio is no longer simply a medium for conveying information, but also a medium that prioritizes a more personal, immersive, and emotional listening experience. In this context, sound design plays a crucial role as an element that enhances the character, atmosphere, and identity of broadcast programs.

Sound design in radio production encompasses various elements such as jingles, bumpers, sound effects, background music, and voice-overs. Each element has its own function in creating atmosphere and building an emotional bond between the listener and the program (Selfridge & Pauletto, 2022). Accurately arranging and combining these elements is key to successful, engaging and professional production.

Research by Nurcahyadi et al. (2024) shows that the application of digital technology in radio broadcast production has significantly improved the technical and aesthetic quality of audio. With the use of digital audio workstations (DAWs) and more sophisticated mixing techniques, producers can now create more realistic and dynamic sound effects. This innovation has contributed to increasing broadcast appeal, particularly for non-news programs that rely on creativity and entertainment as their primary selling points.

However, optimizing sound design is not merely a technical matter. It also involves a deep understanding of listener characteristics, program context, and communication objectives (Vicente & Pérez-Seijo, 2022). In the context of non-news programs such as music, entertainment, and talk shows, sound design serves to create an atmosphere that aligns with the program's theme, strengthens the station's identity, and increases listener loyalty.

Research conducted by Supriadi (2024) confirms that the technical competence of human resources in broadcasting, including mastery of sound design, is a key factor in facing the challenges of media convergence. Therefore, it is crucial to understand how sound design optimization strategies can be effectively implemented in the production process of non-news radio programs to increase broadcast appeal amidst increasingly fierce digital media competition.

Based on this description, this study focuses on analyzing the role and strategies of sound design optimization in non-news radio program production, as well as its contribution to increasing broadcast appeal.

II. THEORITICAL STUDIES

Radio Program Production Concept

Radio program production is a creative process involving the planning, execution, and packaging of audio content to make it engaging and communicative for listeners. According to McLeish (2020), radio production encompasses both technical and artistic aspects aimed at creating a cohesive auditory experience through a combination of narration, music, sound effects, and silence. In the context of modern media, radio program production relies not only on informative content but also on how the message is aesthetically packaged to resonate with digital audience behavior (Bendell & Wall, 2021).

The development of digital technology has driven the integration of digital audio workstation (DAW)-based audio software such as Adobe Audition and Pro Tools, enabling radio producers to perform recording, editing, and mixing with high precision (Kumar & Chatterjee, 2023). Thus, the radio program production process today increasingly relies on both technical skills and the creativity of the production team in utilizing technology to create a distinctive broadcast atmosphere.

Sound Design Theory

Sound design, in the context of radio, is defined as the art and technique of managing sound elements to support narrative, create atmosphere, and strengthen program identity (Holman, 2020). The main elements of sound design include dialogue, music, sound effects, and ambience (Rumsey & McCormick, 2021). According to Sonnenschein (2022), sound design not only functions as a complement but also as the primary structure that shapes listeners' emotional perceptions of broadcast content.

Sound design optimization involves three main stages: audio planning, sound production, and auditory evaluation (Grierson, 2023). In the planning stage, producers determine a sound concept that aligns with the program's identity. The production stage involves creating and editing sound using digital tools, while the evaluation stage ensures a match between the message and listener perception.

In non-news programs, sound design plays a strategic role in building brand image and enhancing broadcast appeal through elements such as jingles, bumpers, and engaging transition effects (Lee, 2022).

Radio Broadcast Appeal Theory

Broadcast appeal refers to a program's ability to attract, retain, and influence an audience. According to Dominick et al. (2021), broadcast appeal depends on the combination of content, delivery style, and the auditory experience offered. Meanwhile, McNair (2023) asserts that in the digital media era, listeners seek not only information but also emotional experiences that can build a psychological bond with the broadcaster and their program.

Sound design plays a significant role in strengthening this appeal by creating an emotional atmosphere and a consistent audio identity (Potter, 2022). Radio programs with a strong sound identity tend to be more easily recognized and remembered by listeners, ultimately increasing audience loyalty.

Audio Communication Theory and Listener Perception

Audio communication is the process of conveying messages through sound, where the quality and characteristics of the audio influence communication effectiveness (Truax, 2020). Listener perception of radio broadcasts depends heavily on the balance between the clarity of the verbal message and the aesthetics of the sound (Blesser & Salter, 2021).

According to the theory of Aesthetic Experience in Auditory Media (Schäfer et al., 2022), the listening experience is shaped through the interaction between sound stimuli, social context, and individual interpretation. Therefore, optimal sound design must accommodate the audience's emotional and cognitive aspects in a balanced manner.

Theoretical Framework of the Research

Based on the theoretical review above, this research is grounded in four main concepts:

1. Radio program production as a creative and technical process.
2. Sound design as a key component in shaping broadcast identity and atmosphere.
3. Broadcast appeal as a measure of successful audio communication.

4. Listener perception as a result of the complex interaction between sound design and the listening experience.

This theoretical framework is used to analyze sound design optimization strategies in non-news radio program production to increase broadcast appeal and audience engagement.

III. RESEARCH METHODS

This research uses a descriptive qualitative approach, aiming to deeply understand the phenomenon of sound design optimization in non-news radio program production. This qualitative approach allows researchers to contextually explore the creative process, production strategies, and perceptions of radio industry players (Creswell & Poth, 2021).

The research used a case study at a radio station in Jakarta. This case study approach was chosen because it provided an opportunity to comprehensively examine how sound design strategies are applied in actual broadcast production practices (Yin, 2020).

This research was conducted at Radio XYZ Jakarta, a private radio station targeting listeners aged 18–40. This location was chosen because of its innovative application of creative audio elements such as jingles, bumpers, and music design, which are oriented towards the listener's auditory experience.

The research subjects were individuals directly involved in the radio program production process, including:

1. Program producers
2. Broadcasters
3. Audio technicians or sound engineers
4. Active listeners

The object of the research was the sound design optimization strategies and practices applied in the production of non-news radio programs, including the creation, editing, and integration of sound elements.

Data collection techniques were carried out using the following methods:

1. Participatory Observation

The researcher conducted direct observations of the program production process in the radio studio. Observations were conducted to observe the implementation of sound design elements such as background music, sound effects, and transition sounds (Neuman, 2022).

2. In-Depth Interviews

Semi-structured interviews were conducted with producers, broadcasters, and audio technicians to gain an understanding of the creative process and technical considerations in sound design. Interviews with listeners were conducted to determine their auditory perceptions and experiences.

3. Audio Documentation and Analysis

Documentation data in the form of broadcast recordings, script rundowns, and production logs were used to analyze sound structure and audio aesthetic patterns (Kumar & Chatterjee, 2023).

Data analysis was conducted using the interactive analysis model of Miles, Huberman, and Saldaña (2020), which includes three main stages:

1. Data Reduction – selecting and grouping relevant data related to sound design elements and broadcast appeal.
2. Data Presentation – presenting findings in the form of narrative descriptions and thematic category tables.
3. Conclusion Drawing and Verification – interpreting patterns, relationships between variables, and the meaning of phenomena based on the context of radio production.

To ensure data validity, this study employed source and method triangulation techniques (Lincoln & Guba, 2020). Triangulation was conducted by comparing data from interviews, observations, and documentation. Member checking was also conducted by requesting confirmation from informants regarding the interpretation of interview results to ensure the data obtained was valid and reliable.

This study adheres to the ethical principles of social research, including:

1. Informed consent from each informant.
2. Confidentiality of informant identity and personal data.
3. Transparency of research objectives to the radio station and participants.

This ethical principle is implemented to maintain scientific integrity and respect the rights of research participants (Bryman, 2021).

IV. RESEARCH RESULTS

Research Location Overview

This research was conducted at Radio XYZ Jakarta, a private radio station focusing on entertainment, lifestyle, and music programming. The station has a reputation for being a

creative radio station that prioritizes audio quality and actively engages with listeners through social media.

In its production activities, Radio XYZ uses various digital tools such as Adobe Audition CC, Logic Pro X, and Soundtoys Plugins to produce professional sound quality. The station has several flagship non-news programs, including Morning Vibes, Weekend Chill, and Late Night Talks, all of which emphasize the power of sound design in shaping the program's character.

Radio Program Production Process

Observations indicate that the production process at Radio XYZ consists of three main stages: pre-production, production, and post-production. These three stages demonstrate the synergy between creative, technical, and communication aspects in producing engaging broadcasts.

Pre-Production Stage

The pre-production stage begins with the formulation of ideas and planning of sound concepts. The program producer determines an audio identity that aligns with the program's character. As stated by Mr. Andi (Morning Vibes Producer):

"Before production, we first determine the program's sound character—whether we want it to feel energetic, relaxed, or warm. From there, we choose appropriate background music and transition effects so listeners can immediately recognize the program's feel." (Interview, April 25, 2025)

This statement aligns with McLeish's (2020) view that the pre-production stage in radio is crucial for establishing the narrative concept and emotional atmosphere that will be built through sound design. This stage demonstrates that sound design is not just a technical aspect, but a communication strategy that influences listeners' initial perceptions of a program.

Production Stage

The production stage is the implementation of the audio design into concrete form. Audio technicians and broadcasters work together to ensure sound balance, music tempo, and the quality of audio effects. Ms. Rani (Audio Technician) explained:

"We always ensure stable audio levels, especially between the broadcaster's voice and background music. We don't want the sound effects to overshadow the main message we want to convey." (Interview, April 29, 2025)

This statement demonstrates the application of the principles of clarity and balance in audio production (Rumsey & McCormick, 2021). In the context of sound design, audio clarity and balance are key indicators of successful radio communication, as sound is the only channel of information received by listeners.

In addition to technical aspects, during the production stage, sound and effects were also improvised to adapt to the dynamics of live broadcasts. This demonstrates creative flexibility in production, in line with the concept of adaptive production (Potter, 2022), where producers and technicians must be able to adapt sound design to the broadcast situation and audience response in real time.

Post-Production Stage

This stage involves editing, mixing, and sound checks. After the mixing process is complete, the team conducts listening tests on various audio devices. The producer explained:

"After mixing, we listen to the results on headphones, studio speakers, and even car speakers because the audio quality must be consistent across all media." (Interview, May 2, 2025)

This step demonstrates the application of the principle of multi-platform consistency, which is crucial in the digital age, where radio broadcasts are also consumed through streaming and podcasts (Grierson, 2023). Cross-media evaluation ensures that the message and sound aesthetic are maintained across all distribution channels.

Sound Design Optimization Strategy

Based on interviews and observations, there are three main forms of sound design optimization strategies implemented by Radio XYZ:

Audio Branding

Each program has signature sound elements that serve as its distinctive identity, such as jingles, bumpers, and audio taglines. For example, Morning Vibes uses a seven-second upbeat jingle with a cheerful tune and fast tempo. According to announcer Ms. Dina:

"When our jingle appears, listeners immediately know it's Morning Vibes. It's a kind of audio marker that makes them familiar." (Interview, May 5, 2025)

This finding aligns with Lee's (2022) theory, which emphasizes that audio branding serves to strengthen program identity and increase recall in listeners' minds. With a consistent sound identity, radio stations can build emotional closeness and familiarity with their audiences.

Creating an Emotional Atmosphere (Emotional Sound Design)

Sound design is used to create an atmosphere appropriate to the program's context. For example, the rain effect and lo-fi music in the Late Night Talks segment create a reflective and intimate feel. This aligns with the theory of Aesthetic Experience in Auditory Media (Schäfer et al., 2022), which states that sound stimuli can elicit emotional experiences that strengthen listener engagement.

One listener, Dinda (24 years old), stated:

"When I listen to the evening segment, it feels really calming. The sound effects and music perfectly match the mood of the evening." (Interview, May 10, 2025)

This statement demonstrates that the success of sound design can be measured by the emotional match between sound and listener perception. Radio XYZ is able to create an auditory atmosphere that not only conveys a message but also evokes emotions.

Listener Engagement through Interactive Audio

The Weekend Chill program features listeners' voice notes processed with a short reverb effect to sound smooth and natural. This practice increases audience participation, in line with the Uses and Gratifications theory (McQuail, 2020), where listeners actively seek out media that fulfills their expressive and social needs.

An audio technician explained:

"We modify the listeners' voices to keep them natural but more pleasant to hear. This makes them feel directly involved in the program." (Interview, May 12, 2025)

This approach demonstrates that sound design also has a social dimension, as it creates a participatory space that strengthens the emotional connection between listeners and the radio station.

Discussion

Conceptually, the findings of this study emphasize that sound design is not merely a technical aspect, but rather a communication strategy that directly influences broadcast appeal.

Three main dimensions explain the research findings:

1. Aesthetic and Identity Dimension

Consistent sound design helps shape a program's image and identity. Jingles and bumpers serve as auditory symbols that enhance brand recall. This supports the view of Lee

(2022) and Holman (2020) that sound identity functions as a branding tool that strengthens the radio station's image in the minds of audiences.

2. Emotional and Psychological Dimension

Sound elements have affective power that creates a specific atmosphere. When sound design aligns with the program's theme and context, it can create emotional resonance (Schäfer et al., 2022). This effect directly impacts listener loyalty, as the listening experience becomes personal and meaningful.

3. Participatory and Interactive Dimension

The integration of listener participation into sound design creates social closeness. Audio interactivity allows the audience to feel part of the broadcast process, aligning with McQuail's (2020) theory of active audiences in digital media.

The sound design optimization strategy at Radio XYZ demonstrates its success in combining artistic creativity, technical consistency, and communication sensitivity. Thus, sound design plays a role not only in enhancing audio but also as a strategic tool in creating a memorable listening experience and strengthening radio's competitiveness in the era of media convergence.

V. CONCLUSION

Based on the research results and discussion regarding the optimization of sound design in the production of non-news radio programs at Radio XYZ Jakarta, the following conclusions can be drawn.

The results show that every sound element, from jingles and audio effects to background music and voice treatment, has a symbolic function in shaping the meaning and atmosphere of the broadcast. This process aligns with audio communication theory (McLeish, 2020), which positions sound as the carrier of emotional messages and program identity. Thus, sound design becomes a strategic medium in building perception and emotional connection between the radio station and its audience.

Through the consistent use of audio branding, such as signature sounds and program jingles, Radio XYZ successfully created an auditory image that was easily remembered by listeners. This supports the views of Lee (2022) and Holman (2020) that audio identity is an integral part of media branding strategy. A strong sound identity helps increase brand recall and listener loyalty amidst the competition in digital media.

The contextual use of sound effects and music creates an emotional atmosphere that aligns with the program's theme. Listeners experience a more personal and immersive listening experience, as explained by Schäfer et al. (2022) on the concept of aesthetic experience in auditory media. Thus, the success of a radio program is determined not only by the content of the message, but also by how the sound is processed to evoke the audience's emotions.

Programs like Weekend Chill demonstrate that the use of listener voice notes processed with professional audio quality increases a sense of social engagement and emotional closeness. This reinforces the Uses and Gratifications theory (McQuail, 2020), in which audiences actively engage in the creation of meaning through participatory media.

In media convergence, the success of radio productions depends not only on verbal content but also on the consistency of sound quality across various platforms such as streaming and podcasts. The principle of multi-platform consistency (Grierson, 2023) requires that every audio element be produced to standards that adapt to various devices and distribution channels.

This research confirms the strategic role of sound design in creating added value in audio communications. Through aesthetic, technical, and interactive approaches, sound design is a fundamental element determining message effectiveness, program appeal, and the sustainability of radio in the digital age.

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