

---

# Content Analysis as a Foundational Methodology in Music Research

Marsel Ridky Maulana<sup>1</sup>, Regina Darmawanti<sup>2</sup>, Raffa Arya Saputra<sup>3</sup>

<sup>1</sup>Pendidikan Seni, Sekolah Pascasarjana, Universitas Pendidikan Indonesia, Indonesia

<sup>2,3</sup> Pendidikan Seni Musik, Fakultas Pendidikan Seni dan Desain, Universitas Pendidikan Indonesia, Indonesia

---

## Article Info

### Article history:

Received: Nov 9, 2025

Revised: Dec 20, 2025

Accepted: Jan 13, 2026

### Keywords:

Content analysis

Music research methodology

Music representation

Theoretical framework

Art research

---

## ABSTRACT

This study aims to examine a methodological framework based on content analysis for music research. Although content analysis has been widely applied across various scientific disciplines, its implementation within music studies remains sporadic, unsystematic, and lacks an operational framework that can be widely adopted. Accordingly, this research formulates a central inquiry: can content analysis be positioned as a foundational methodology in music research, and how can its methodological structure be scientifically constructed? The research employs a conceptual-qualitative approach using theoretical analysis and literature synthesis, drawing primarily on Krippendorff's theoretical formulations on content analysis and Scopus-indexed empirical publications that apply this method within music-related contexts. The analytical processes were conducted through unitizing, sampling, coding, inferencing, and validation procedures, which were subsequently mapped onto music research settings. The findings indicate that content analysis possesses both epistemological flexibility and procedural structure, enabling its applicability in musicology, ethnomusicology, music education, music psychology, performance studies, as well as broader domains including the humanities and technology-based research. The novelty of this study lies in the formulation of a comprehensive methodological model that positions music as a representation of meaning rather than merely an acoustic phenomenon. In conclusion, content analysis warrants consideration as a primary methodological approach in music research, as it effectively bridges interpretive frameworks and data-driven approaches. Future research recommendations include the empirical testing of the proposed model across diverse genres and research contexts, as well as the exploration of its integration with computational methods such as AI-based approaches and Music Information Retrieval.

---

*This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license.*



---

## Corresponding Author:

Marsel Ridky Maulana,  
Pendidikan Seni,

Universitas Pendidikan Indonesia,  
Jl. Dr. Setiabudi No.229, Isola, Kec. Sukasari, Kota Bandung, Jawa Barat 40154,  
Email: [ridkymarsel@upi.edu](mailto:ridkymarsel@upi.edu)

---

## 1. INTRODUCTION

Content analysis has developed as one of the significant methodological approaches in music research due to its capacity to bridge structural analysis with inquiries into musical meaning and function (Crawford & Gibson, 2016; Maulana et al., 2025; Maulana & Sutanto, 2024). This method enables researchers to examine explicit musical dimensions such as structure, motifs, rhythmic patterns, harmony, timbre, and lyrics while simultaneously uncovering implicit layers, including emotional expression, cultural values, musical identity, and symbolic meaning. The ability to interpret both forms of information strengthens the relevance of content analysis within music research (Maulana, 2024; Maulana & Romadlana, 2025; White & Marsh, 2006). A growing body of literature demonstrates that content analysis has been widely applied in music studies and has proven adaptable across diverse methodological traditions. Evidence from Scopus-indexed publications indicates that the method is considered systematic and highly adaptable. García-Cembellín, Gértrudix-Barrío, and Barraca-Mairal, (2022) through the study “Mixed Research as a Musical Interpretive Mode”, assert that content analysis serves as a methodological bridge between interpretive music analysis and data-driven quantitative approaches.

A similar trend was noted by Miksza and Johnson, (2012) who observed an increasing use of content analysis within music research over the past three decades. This growth is largely attributed to its applicability within qualitative, quantitative, and mixed-methods paradigms. Crawford and Gibson, (2016) further emphasize that content analysis enables a methodological integration between traditional musicology and technology-driven, data-intensive frameworks, making it increasingly relevant to contemporary research settings. Widmer, (2016) adds that advancements in artificial intelligence further reinforce the position of content analysis, as the method supports large-scale pattern detection in music while preserving room for interpretive judgment. Using this approach, scholars can identify structural musical patterns, classify aesthetic categories, and trace stylistic transformations across historical periods (Collins, 2025; Nakamura et al., 2025). Technological developments continue expanding the scope of content analysis within music research. Computational methodologies including machine learning, probabilistic modeling, neural architectures, and audio feature extraction enable large-scale music analysis (Chen & Wang, 2017; Kollipara et al., 2025). Systems such as audio content analysis and Music Information Retrieval (MIR) apply the method to classify genres, map inter-work relationships, and identify aesthetic change in popular music (Huang & Zhang, 2020).

Krippendorff, (1980) emphasizes that the core of content analysis lies in the researcher’s ability to draw valid inferences about meaning represented by data rather than merely describing its material form. Thus, musical elements such as melody, timbre, rhythm, or vocal nuances are not interpreted as isolated technical constructs. They acquire meaning only when situated within their contextual environment: aesthetic reception, performance practice, cultural value, or social communicative role. Accordingly, content analysis does not replace formal analysis but reframes musical data as signs, symbols, or expressive phenomena within specific musical practices (Maulana et al., 2025; Croucher, 2024).

It is important to note, however, that content analysis in music research extends beyond computational frameworks and may also be applied within qualitative and interpretive paradigms. Qualitative studies that foreground musical experience, performative interpretation, and identity construction have also incorporated this method. Existing research demonstrates that content analysis allows the exploration of internal experience, performative narrative, and meaning-making processes that remain inaccessible through solely formalist approaches (Vestad, 2019). Synthesis of Scopus-indexed studies suggests that content analysis is increasingly acknowledged not merely as a technical analytic procedure, but as an integrative methodological framework capable of connecting

music analysis, performance studies, ethnomusicology, cultural studies, and digital music research (Ferreira, 2023; Lailia et al., 2025; Maulana, 2025). Thus, it offers a conceptual foundation for understanding music both as an acoustic structure and as a form of epistemic, cultural, and experiential knowledge. Aligned with this scholarly trajectory, the present study positions content analysis as a principal methodological paradigm in music research rather than a descriptive analytical technique.

Epistemologically, content analysis in music research is grounded in procedural rigor and testable interpretive reasoning. Its core lies in categorization, theoretical abstraction, and interpretive synthesis. Scopus-indexed studies demonstrate that validity and reliability can be secured through transparent coding schemes, consistent categorization, and clear interpretive procedures (Elo & Kyngäs, 2008; Lindgren et al., 2020). At this point, content analysis differentiates between explicit observable information and implicit content requiring layered inference an essential distinction given music's dual nature as formal structure and affective-symbolic expression (Graneheim et al., 2017; Ruin, 2019). Furthermore, content analysis may incorporate diverse musical sources, including audio recordings, digital metadata, scores, and performer experience. Its application may follow deductive, inductive, or hybrid reasoning to generate analytical and interpretative findings (Assarroudi et al., 2018; Kibiswa, 2019). To ensure interpretive credibility, several studies highlight the importance of expert verification through code alignment, triangulation, and interpretive review (Coulston, Lynch, & Vears, 2025; Kawamoto, Koizumi, & Yoshikane, 2023).

Despite the presence of various analytic approaches in music such as music analysis, ethnomusicology, and semiotic or hermeneutic frameworks many still lack explicit methodological articulation regarding analytical procedures. Therefore, a method is required that not only examines musical meaning in depth but also provides systematically traceable and scientifically accountable procedures. Within this context, content analysis offers methodological relevance. Krippendorff, (1980) conceptualizes content analysis as a scientific means of uncovering meaning embedded within data. Its focus lies not solely in the physical characteristics of text, sound, or image, but in the symbolic or conceptual message represented. Thus, the notion of "content" encompasses contextual meaning rather than surface form.

This orientation is particularly crucial in music research. Music is not merely an arrangement of sounds or notation but a symbolic communication system embodying expressive, cultural, aesthetic, and emotional relationships between performers and listeners. Accordingly, through content analysis, music is approached as representation: a culturally situated phenomenon rather than an acoustic event. Thus, content analysis should not be understood as a rigid technical procedure but as a flexible methodology through which researchers interpret music as communicative symbolic structure. From this perspective, music is treated as a layered expressive, cognitive, social, and cultural construct. Therefore, content analysis stands as a flexible framework applicable across Western classical music, ethnic traditions, popular music, and technology-mediated musical practices.

This article is formulated to address the identified methodological gap. Its primary aim is not to apply content analysis to a particular musical repertoire but to construct a theoretical and methodological framework demonstrating how content analysis may serve as a methodological foundation for music research. By synthesizing Krippendorff, (1980) foundational principles with contemporary developments in digital humanities, ethnomusicology, and performance analysis, this work proposes a referential methodological model applicable across diverse musical traditions from traditional repertoires to technology-based practices. Accordingly, content analysis emerges as a robust methodological foundation capable of supporting systematic, testable reasoning about music both as an artistic object and as a human phenomenon.

## **2. RESEARCH METHOD**

The methods section of this article is designed to formulate a conceptual framework of content analysis as a foundational methodological approach in music research. Since this article does not focus on applying content analysis to a single specific musical repertoire, the method presented functions as a "conceptual methodological framework" rather than a technical procedure for a

singular empirical case. The structure of this method adapts the core principles of content analysis formulated by Krippendorff, (1980) which include the processes of unitizing, sampling, coding, inference, and validation procedures of analytical findings. Accordingly, the proposed method can be applied across diverse music research contexts, including Western music, popular music, traditional music, and technology-mediated musical practices (Maulana et al., 2025; Maulana, Karyono, & Sunaryo, 2024).

### **2.1. Methodological Design**

This study adopts a conceptual methodological design intended to develop a theoretical framework for content analysis as a foundational method in music research. Rather than producing or analyzing specific empirical data, this method aims to formulate a methodological structure capable of guiding researchers in applying content analysis across diverse musical contexts. The conceptual framework was constructed through an integration of literature review, theoretical synthesis, and methodological reasoning aligned with Krippendorff, (1980) foundational principles of inferential content analysis. Thus, the study generates a generative working model that can be replicated, modified, and used as a methodological reference in cross-method music research, including qualitative, quantitative, and mixed methods paradigms.

### **2.2. Epistemological Principles of Content Analysis**

The concept of content analysis in this study is grounded in the epistemological understanding that music is not merely a physical object or an acoustic phenomenon, but a representational system that contains meaning. Within this framework, music is treated as a form of symbolic communication involving expression, interpretation, and embedded sociocultural context. This principle aligns with Krippendorff, (1980) assertion that content analysis is an inferential method concerned with understanding meaning embedded in data rather than solely its material properties. As an object of inquiry, music encompasses dimensions beyond notation, sound, or formal structure, as it is deeply embedded in both individual and collective experience. Therefore, the analytic process does not solely emphasize technical measurement or mechanical categorization of musical material, but rather the formulation of valid inferences from the representational meanings embedded in musical expressions. Krippendorff (1980), argues that the essence of content analysis lies in a reasoning process that is testable, repeatable, and scientifically accountable. This principle enables researchers to trace how musical elements such as rhythm, timbre, lyrics, or performative expression construct meaning within cultural and musical practices. In this regard, content analysis functions not merely as a technique for processing information but as a conceptual framework for understanding music as a complex, layered, and interpretively rich human phenomenon.

### **2.3. Unitizing Musical Data**

The determination of analytical units, or unitizing, constitutes a fundamental stage in content analysis because it establishes what is considered a meaningful unit within the object of study. Krippendorff, (1980) emphasizes that unitizing is not merely the act of segmenting or selecting data but a conceptual process of defining which aspects are analytically valuable based on research aims and the researcher's interpretive framework. In music research, units are not limited to technical elements such as notation or melodic structure but may also include musical expressions, performative patterns, or symbolic communication emerging in musical practice. At this stage, researchers are encouraged to view music not merely as sound, numbers, or technical data, but as encoded meaning situated within context. Clear unitizing ensures analytical focus and prevents the research scope from becoming excessively broad or narrowly constrained.

Unitizing may involve selecting specific segments of musical data deemed analytically relevant. These units may vary substantially depending on the musical phenomenon under examination. Units may take the form of structural features such as melodic motifs, harmonic progression, vocal phrasing, recurring rhythmic patterns, or musical textures contributing to

compositional character. However, units may also take non-structural forms, including timbral qualities, ornamentation styles, articulation techniques, or physical gestures observed in performance contexts. At a broader level, units may also include extra-musical material such as lyrical narratives, conversational interaction during performance, musician interviews, audio-visual documentation, or sociocultural conditions shaping the musical practice. Unit selection is not arbitrary; it must reflect research objectives, musical context, and situated meaning as understood by composers, performers, and audiences. Thus, unitizing can be understood as a curatorial act ensuring that the selected data meaningfully represent the musical phenomenon under scientific and contextual inquiry.

#### 2.4. Sampling Strategy

The sampling stage in content analysis determines which data will be analyzed to meaningfully represent the musical phenomenon under investigation. Krippendorff, (1980) stresses that sampling is not merely the random selection of data but a methodological decision that ensures the chosen material is relevant to research objectives and coherently aligned with interpretive and contextual frameworks. In music research, sampling is not purely technical; it also reflects aesthetic, historical, performative, and sociocultural considerations, as music operates simultaneously as sound, practice, and communicative medium. For this reason, researchers must articulate clear theoretical justification when selecting repertoires, recordings, or documentation as data sources. In practice, multiple sampling approaches may be employed depending on research needs. Purposive sampling is used when specific repertoires are intentionally selected due to distinct characteristics for example, songs with Sundanese vocal ornamentation or distinctive *keroncong* vocal techniques. When unit data must meet predefined conditions, criterion-based sampling is appropriate, for instance selecting only works from certain periods, genres, or specific performance styles. Meanwhile, theoretical sampling is more flexible and iterative, wherein data selection evolves as meaning categories develop throughout the analytic process. Through such methodological rigor, sampling not only defines data scope but also sustains interpretive coherence, enabling content analysis in music to generate findings that are relevant, accountable, and meaningful within scholarly inquiry.

**Table 1. Operationalization of Musical Analysis Units.**

Type of Unit	Data Form	Example of Implementation	Dimensions of Meaning Examined	Potential Interpretations
Structural Unit	Musical notation, melodic transcription, rhythmic patterns	Melodic motifs, harmonic progression, traditional rhythmic patterns, vocal phrasing	Formal aesthetics, compositional structure, musical style	Identification of musical structure, composer style, idiomatic characteristics
Expressive Unit	Audio recordings, vocal techniques, instrumental timbre	Vibrato, ornamentation, vocal texture, dynamics	Emotional expression, acoustic gestures, sound aesthetics	Performer's expressive character; emotional relationship of sound
Performative Unit	Performance videos, live documentation, gesture studies	Bodily expression, musician interaction, audience response	Performance practice, performativity, musician identity	Performer-audience relationship; symbolic meaning of gestures
Textual Unit	Song lyrics, musical narratives, participant descriptions	Traditional metaphors, cultural messages, identity construction	Verbal representation, cultural symbols, lyric semiotics	Relationship between language and music; ideology, values, or embedded messages
Contextual Unit	Interviews, metadata, cultural studies	Context of creation, social function of music, genre history	Sociocultural context, traditional practices, dynamics of modernity	Cultural transformation, function of music in society

Source: Marsel Ridky Maulana, 2025.

## **2.5. Coding System**

Within content analysis, the coding process constitutes a pivotal stage in which musical data begin to be structured so they can be read as coherent meaning patterns and systematically analyzed. The initial stage is commonly referred to as open coding. At this point, the researcher does not yet impose rigid or predetermined categories; rather, the data are allowed to speak in their natural form. In the context of music, elements recorded during this stage may include rhythmic patterns, types of vocal ornamentation, timbral characteristics of instruments, melodic phrase structures, articulation, or recurring harmonic formations. During this stage, the researcher has not yet interpreted relationships between elements, but instead focuses on noting their occurrence, variation, and relevance within the musical context. Consequently, open coding is exploratory in nature. Through this process, the researcher begins identifying the core characteristics of the music under investigation while opening interpretive possibilities embedded within the sonic material. This foundational stage is essential to prevent subsequent analysis from relying solely on intuition, ensuring instead that it is grounded in a clear, systematic, and accountable methodological basis.

Following the exploratory phase, the process progresses toward axial coding and selective coding. In axial coding, the researcher reorganizes previously identified aspects to observe emerging relationships and structural connections. In musical analysis, these relationships may reflect musical functions, performative contexts, emotional expression, or symbolic meanings inherent in specific musical practices. This stage enables the researcher to recognize that musical elements do not exist in isolation but form an interconnected network of meaning. The final stage, selective coding, focuses on refining and formulating the most essential meaning categories. Here, the researcher selects core categories that truly represent the emerging findings and employs them as the foundation for interpretation. The outcome is a more coherent, systematic analytical framework suitable for formulating conclusions.

## **2.6. Meaning Inference**

Meaning inference represents the core of content analysis, as this stage involves drawing deeper understanding from the representational dimension embedded in the data. In music research, deriving conclusions is not merely a matter of identifying structural components or documenting audible phenomena. Instead, the primary concern is how musical elements convey intentions, values, and contextual realities that shape their existence. In other words, the researcher seeks not only what is audibly present but also how meaning operates beneath the sonic surface. Here, music is treated as a symbolic language carrying aesthetic, social, and cultural messages. At this stage, the researcher no longer focuses on isolated fragments but examines relational patterns among elements how melody, rhythm, harmony, and form interact to construct a unified system of meaning. This process requires sensitivity, as music is not simply organized sound but an expressive manifestation of experience, ideas, and situated practice.

Meaning-making in content analysis does not occur automatically. It requires gradual, reflective, and accountable reasoning. The researcher interprets findings based on theoretical frameworks, coding systems, and understanding of the cultural and social context surrounding the musical work. Interpretation typically begins with a preliminary, tentative understanding before advancing toward a more comprehensive synthesis. Although the researcher attributes meaning during this stage, interpretive distance must be maintained to prevent conclusions from being dominated by personal bias. Thus, the final analytical outcome not only explains how the music is constructed but also articulates how it functions as a medium of expression, identity formation, and communication within human life.

## **2.7. Validity and Reliability**

Validity in content analysis ensures that meanings derived from musical data align with the social, aesthetic, and cultural contexts that inform them. In music research, validity extends beyond technical accuracy to encompass interpretive coherence with representational structures inherent in

music as a symbolic phenomenon. Thus, validation includes not only category formulation and data segmentation but also evaluative reflection on how those categories generate academically testable knowledge. Validity is achieved when the interpretation can demonstrate a logical connection between musical elements, performative contexts, and the theoretical framework applied. Accordingly, validity in content analysis is interpretive in nature and depends on the researcher's ability to justify the relationship between data and the meaning constructed. This aligns with Krippendorff's assertion that validity does not reside in the data alone but emerges through rational and transparent analytical relationships. Reliability in content analysis concerns consistency in coding procedures, categorization, and interpretative reasoning. In the context of music research, reliability does not imply that all researchers must arrive at identical findings; rather, it requires that the analytical process is traceable, reviewable, and methodologically systematic. Reliability may be reinforced through coding alignment, inter-researcher comparison, or expert verification by individuals knowledgeable about the musical context under study. Transparent documentation of analytical procedures is essential to ensure that findings are not merely products of individual intuition but instead result from consistent analytical strategies. Accordingly, reliability is understood not as uniformity of interpretation, but as procedural stability that enables replication, evaluation, and scholarly justification of meaning derived from musical data. This positioning frames reliability as a crucial component in establishing the credibility of content-analysis-based music research.

**Table 2. Operational Framework of Validity and Reliability in Music Content Analysis**

<b>Component</b>	<b>Operational Definition</b>	<b>Key Question</b>	<b>Implementation Strategy</b>	<b>Quality Indicator</b>
<b>Conceptual Validity</b>	The accuracy of the relationship between musical interpretation and its underlying contextual meaning.	Does the resulting interpretation correspond to the cultural, aesthetic, and functional context of the music?	Employing analytical frameworks from musicology, ethnomusicology, semiotics, or hermeneutics.	The interpretation aligns with the musical context and can be theoretically justified.
<b>Contextual Validity</b>	The extent to which the analytical outcome reflects actual musical practice and performative experience.	Does the analysis represent musical practices as understood by performers and audiences?	Expert interviews, triangulation of audio-performance recordings, field notes.	Analytical findings can be verified by relevant music practitioners.
<b>Inferential Validity</b>	The logical accuracy in deriving meaning from musical data.	Is the relationship between the data and the conclusion logical and argumentatively sound?	Constructing analytical narratives, maintaining transparent inferential pathways, and auditing analytical documentation.	The inferential process can be followed and understood without additional interpretation.
<b>Process Reliability</b>	Consistency of analytical procedures from coding to final interpretation.	Can the analytical process be replicated by other researchers?	Detailed documentation of procedures, codebook development, and a clearly structured categorization system.	The analytical process produces stable patterns when repeated.
<b>Intercoder Reliability</b>	Consistency of categories and interpretations across independent researchers.	Do two independent coders produce comparable categories?	Peer review, code comparison, clarification and refinement of category definitions.	A satisfactory level of analytical agreement is achieved after interpretive discussion.
<b>Interpretive Reliability</b>	Consistency between data and meaning across all analytical stages.	Is the final interpretation coherent with the analyzed data?	Cross-checking transcription data, category structures, and interpretive narratives.	No contradictions are present between the data

---

and final analytical  
conclusions.

---

**Source:** Marsel Ridky Maulana, 2025.

To illustrate how validity and reliability are applied in content-analysis-based music research, a hypothetical example can be drawn from the study of vocal ornamentation in *tembang Sunda Cianjuran*. In the initial stage, the researcher defines the unit of analysis as vocal ornamentation that contains the techniques *reureueus*, *leot*, and *gibeg*. After determining the vocal sections to be analyzed, the next step is to assign codes to these vocal patterns. The coding process is carried out by examining their form, intensity, frequency of occurrence, and expressive role within the structural framework of the song. To ensure analytical accuracy, the researcher then conducts a validity assessment by confirming the musical context. For instance, the preliminary findings may indicate that *reureueus*, *leot*, and *gibeg* are not merely vocal embellishments but also function as aesthetic markers that distinguish specific vocal styles in *tembang Sunda Cianjuran*. At this stage, validity is strengthened through comparison with existing Sundanese music literature, interviews with practitioners, and documentation of performances. When these findings align with expert understanding and written sources, both the conceptual and contextual validity may be considered established.

Reliability testing is conducted by comparing the coding outcomes. A second researcher receives the same recording and coding guidelines (codebook) for independent analysis. If both researchers identify the ornamentation types with a high level of agreement, inter-coder reliability can be regarded as satisfactory. However, if discrepancies emerge, such differences are not treated as methodological errors. Instead, they become an opportunity for reflection and scholarly discussion to refine the category system and strengthen the operational definitions so they can be applied consistently in subsequent analyses. Through such a methodological approach, validity and reliability are not merely procedural requirements in research design; rather, they function as epistemological foundations ensuring that content analysis in music research generates systematic, reproducible knowledge that authentically reflects musical meaning as understood within the cultural context and performance practices from which it originates.

### 3. RESULTS AND DISCUSSIONS

This chapter presents conceptual outcomes in the form of a methodological model for applying content analysis to research in music studies. The results discussed are not empirical findings derived from a specific musical repertoire, but rather a methodological framework synthesized from Krippendorff, (1980) content analysis theory and recent global research developments documented in the Scopus database. The model is developed to address methodological needs in music research, in which music is examined not merely as a material object, but as a representational system containing meaning, symbolism, aesthetic structure, and cultural relations.

#### 3.1. Content Analysis Model for Music Research

The main contribution of this study is the development of a content analysis model that may serve as an analytical framework for music research. The model integrates Krippendorff, (1980) core concepts including the identification of units of analysis, sampling strategies, coding procedures, inferential processes, and validation with analytical requirements specific to music studies, such as musical structure interpretation, performative experience, expressive interpretation, and cultural contextualization. Through this integration, the model functions not only as a technical guideline but also as a conceptual orientation for how musical knowledge may be constructed. The inferential outcomes derived through this method are not merely descriptive; they are grounded in musical evidence and contextual meaning, enabling interpretations that are both rigorous and analytically warranted.

The model is designed in a modular format, allowing flexibility in application across a wide spectrum of music research domains, including Western art music, traditional music, popular music, ethnomusicology, performative analysis, and technology-driven musical research. This modular approach aligns with current global publication trends indexed in Scopus, where content analysis is rarely applied as an isolated method, but instead combined with approaches such as computational music analysis, machine learning-based music retrieval, cultural theory, and qualitative interpretive methodologies. Accordingly, the model demonstrates a high degree of adaptability and may be tailored to diverse research contexts and objectives.

### **3.2. Integrating Content Analysis with Global Music Research Methodologies**

Findings derived from Scopus-based research mapping indicate that the application of content analysis in music studies has evolved toward increasingly interdisciplinary methodological directions. This development bridges fields such as musicology, ethnomusicology, cultural studies, music cognition research, and computational music analysis. The shift occurs not only conceptually, but also procedurally, as contemporary research incorporates large-scale multimodal musical datasets. One clear example is provided by Collins, (2025) who applied *audio content analysis* to trace a musician's career trajectory through aesthetic pattern mapping based on digital recordings and metadata. This approach demonstrates how content analysis can systematically reconstruct creative processes with precision and verifiability. A similar methodological direction appears in the work of van Kranenburg, Volk, & Wiering, (2013) which combined local melodic features with computational classification models, revealing persistent and shifting musical patterns across regional folk repertoires. These studies indicate that content analysis is no longer limited to categorical classification; rather, it is increasingly applied as a means of interpreting music as a dynamic and complex representational system.

A comparable shift is demonstrated in Buteau et al., (2009) who compared four melodic analysis models and concluded that a combination of computational procedures and theory-driven categorization resulted in more stable analytical outcomes than any singular analytical model. More recently, Liu, (2025) applied *large language models* to examine stylistic tendencies across piano performance genres, showing a shift from subjective interpretive frameworks toward systematic, transparent, and replicable analytical protocols. Collectively, these methodological variations illustrate that content analysis now functions alongside narrative, discursive, ethnographic, performative, and computational pattern-recognition methodologies. With its methodological elasticity, content analysis increasingly acts as a methodological bridge between interpretive approaches and large-scale data-driven analytics. Through ongoing synthesis of theory and empirical advancement, content analysis is evolving from a technical tool into a foundational methodological framework within music research.

### **3.3 Representing Music as Content and Its Consequences for Analytical Reasoning**

A key conceptual implication emerging from this study is the need to reconceptualize how music is understood within the context of content analysis. Music can no longer be reduced to tonal sequences, harmonic structures, or quantifiable data points. Such a view is limiting. Instead, music is more accurately understood as a symbolic communicative system a form of language conveying affective experience, cultural values, emotional expression, and conceptual meaning. This position aligns with Krippendorff, (1980) assertion that content analysis is not intended merely to reveal the physical structure of data, but to understand how meaning is represented within it.

Within this perspective, music may be analyzed across multiple interrelated layers of representation. The first layer includes the structural dimension of music: melodic phrasing, harmonic progression, rhythmic configuration, and formal organization. However, structural description alone is insufficient because music also manifests as performance. At this level, interpretation becomes central, involving emotional articulation, gestural dynamics, vocal or instrumental technique, and performative nuance. A subsequent analytical layer extends toward cultural and historical meaning, situating music within broader interpretive frameworks such as

aesthetic symbolism, cultural identity, performative lineage, and social relations among musical agents. This layered framework assists researchers in delineating analytical focus whether structural, performative, or socio-cultural and ensures that inferential reasoning remains methodologically accountable and scientifically defensible.

### 3.4. Integration with Empirical Studies in International Scholarship

To reinforce the conceptual foundation of this model, this section connects the framework to empirical studies applying content analysis in music research. Bullerjahn (1994), for instance, demonstrated that film music analysis using content analysis may capture emotional and narrative dimensions rather than merely formal elements. The study aligns with the latent content principle embedded in the proposed model, wherein music is analyzed through interpretive effects on listeners within audiovisual contexts. Ding & Lerch, (2023) further substantiate the relevance of this model through an interdisciplinary review of performance research, illustrating that content analysis remains applicable when music is understood as performative praxis involving perception, interpretation, and expressive realization beyond notation alone. This reinforces the model's adaptability and conceptual resonance.

Similarly, Koner, (2024) demonstrated the usefulness of content analysis for mapping research trends, musical themes, and methodological development in music education scholarship showing that content analysis can be applied not only to sound-based data, but also to metadata, educational documents, and musical discourse. Finally, Karageorghis et al., (2022) applied content analysis in the context of music psychology, treating music as a social and emotional stimulus influencing behavioral responses. This reinforces the argument that content analysis can bridge interpretive and applied contexts, spanning computational and experiential domains.

**Table 3. Framework Integration Table and Empirical Evidence**

Study / Article	Musical Object / Focus / Theme	Method	Content Analysis Elements Aligned with the Model	Implications for the Framework
<i>An empirical investigation of effects of film music using qualitative content analysis</i> (Bullerjahn & Guldenring, 1994)	Film soundtrack, film music, and emotional effects on audiences	A mixed approach combining rating scales and qualitative content analysis of audience responses to music	Coding emotional responses and narrative interpretations of the music → representation of musical meaning within an audiovisual context	Demonstrates that content analysis can capture dimensions of musical meaning within performative–narrative contexts, reinforcing the relevance of latent content orientation within the proposed model
<i>An Interdisciplinary Review of Music Performance Analysis</i> (Lerch, 2020)	Music performance, empirical studies in music performance analysis	Interdisciplinary review: musicology, empirical musicology, content/performance analysis	Identification of performative elements, structure, and musical perception recommending the combined use of content analysis and empirical methods	Confirms that content analysis is compatible with empirical musicology and performance studies, supporting the adaptability and modular flexibility of the proposed model
<i>Visions of Research in Music Education A Content Analysis</i>	Research articles in music	Literature-based content analysis categorizing themes,	Demonstrates the use of content-coding	Validates that content analysis can be applied to

<i>of Graduate Degrees in Music Education in NASM Accredited Institutions A Content Analysis</i> (Koner, 2024)	education; curriculum content and research themes	methods, and research trends	applied to metadata of music-related articles: themes, subjects, and methodological approaches	musical metadata and literature, supporting the relevance of this method for music research, metadata studies, and bibliometric-based inquiry
<i>Influence of music on driver psychology and safety relevant outcomes: A content analysis study</i> (Karageorghis et al., 2022)	Music in relation to psychological states (driving context); effects of music on emotion and cognition	Inductive content analysis of participant responses to music	Categories include emotional impact, perceived safety, and psychological responses; music analyzed as a contextual stimulus	Demonstrates the versatility of content analysis by treating music as both meaning and stimulus, supporting the framework positioning music within contextualized meaning-making processes

Source: Marsel Ridky Maulana, 2025.

When synthesized more cohesively, the literature above demonstrates that the application of content analysis in music research is no longer understood as a static technique for reading symbols or musical structures, but rather as an analytical instrument for uncovering meaning, lived experience, and contextual dimensions embedded within music. Bullerjahn, (1994) argues that film music is not merely a matter of harmony or acoustic structure; instead, it operates as an emotional and narrative agent that shapes how audiences construct meaning from visual sequences. Their use of qualitative content analysis to examine emotional responses aligns with the concept of *latent content* within your model, wherein meaning is not explicitly observable but emerges through perception and interpretation.

This perspective is further reinforced by Ding and Lerch, (2023) who assert that within performance studies and empirical musicology, content analysis has become an essential method when researchers seek to capture performative and interpretative dimensions that cannot be fully explained through notation or traditional structural analysis. This methodological shift repositions music research away from sound as an object toward music as an interpretive and experiential phenomenon. In the field of music education, Koner, (2024) demonstrates that content analysis may also be employed to map research patterns, thematic trends, or curricular trajectories through academic articles and institutional documents. These findings broaden the methodological scope: music is no longer examined solely through its sonic attributes, but also through the discourse that surrounds, constructs, and legitimizes it.

Meanwhile, the work of Karageorghis et al., (2022) illustrates how content analysis is applied in the domains of music psychology and human behavior. Here, music is conceptualized as an external stimulus capable of influencing emotion, perception, and safety in non-traditional contexts such as driving. These findings indicate that music is not merely an aesthetic form but also a phenomenon embedded in behavioral and psychological response systems. Collectively, these four cases despite variations in scope and research purposes demonstrate that content analysis has been empirically integrated within music studies across diverse domains: film music, performance studies, music education, and psychological and social research, consistent with the methodological flexibility of the model. Based on this integration, the model you developed finds empirical grounding in a substantial body of existing scholarship. Several key implications emerge:

A review of content analysis applications in music research indicates that the method is highly adaptable and applicable across varied contexts. Film music, performance-based music, metadata-driven literary analysis, and music as a trigger of social or behavioral response may all be

approached using comparable analytical logic. This versatility suggests that a modular methodological framework is not merely a conceptual proposition but a valid and operational foundation for diverse categories of musical inquiry. Furthermore, recent scholarly developments reveal that content analysis increasingly transcends surface-level phenomena such as melody, harmony, or rhythm to investigate latent meaning. Studies now integrate musical structure with performance, perception, emotion, identity, and social function. These findings reinforce the premise that music is not only an organized sonic system but also a representation of lived experience, cultural context, and interpretive process.

Current trends also show a growing interdisciplinary trajectory. The modular analytical model allows integration with computational and data-driven methods without diminishing interpretive depth. Research in digital humanities increasingly converges content analysis, performance-based inquiry, and data analytics. In this respect, the method does not merely adapt to technological development but enables epistemic synthesis between quantitative and qualitative paradigms. Another significant aspect concerns academic legitimacy. Numerous studies employing this method have been published in reputable, Scopus-indexed international journals. This reality carries epistemological consequences: the model is not speculative, but empirically grounded and recognized within the global scholarly community.

Overall, this study formulates a methodological model of content analysis that responds to the evolving demands of contemporary music research. The model offers a flexible, verifiable, and methodologically compatible conceptual structure suitable for diverse research frameworks from qualitative to technology-assisted analytical approaches. Thus, the primary contribution of this study lies not in the examination of a specific musical repertoire, but in establishing a methodological framework that can serve as a scientific reference for future research in music studies. The discussion in this research foregrounds the methodological position of content analysis within music scholarship and its implications for advancing contemporary research methodologies. The methodological framework developed in the preceding chapter demonstrates that content analysis possesses epistemological and methodological flexibility, enabling its adaptation to multiple investigative contexts. These findings rest on a strong foundation within the development of international music research, particularly studies employing content analysis either as a primary method or as an integrative component in multidisciplinary music research models.

Empirical evidence regarding the use of content analysis in music research can be found across various Scopus-indexed scholarly publications. For instance, the study conducted by Köksal Apaydinli, (2023) in the field of music education demonstrates that content analysis is highly effective for mapping trends, methods, and research orientations through the examination of scholarly articles within a defined temporal scope. Through this approach, the study not only identifies thematic tendencies but also provides a structural overview of the developmental trajectory of music research involving augmented reality technologies. These findings suggest that content analysis is not limited to analyzing musical objects per se; rather, it can be applied to research metadata while simultaneously functioning as an epistemological mapping tool within the discipline of music studies.

Further evidence of the relevance of content analysis is reflected in the work of Ding and Lerch, (2023) concerning the analysis of musical performance. In his critical review of methods used in performance analysis, Lerch underscores that performance analysis extends beyond pitch sequences, rhythmic patterns, and structural aspects. It is also strongly connected to perception, interpretation, embodied aesthetics, and the emotional impact on listeners. Within this perspective, content analysis serves as a methodological apparatus capable of capturing the performative dimensions of music while maintaining interpretive rigor through systematic categorization and inferential procedures. This approach reveals a continuity between interpretive musicological traditions and contemporary research methodologies that demand analytical transparency.

The contribution of content analysis is also evident within the field of cultural music studies. Hoeven & Hitters, (2019) in their investigation of the social value of live musical performances, found that music can be examined as a cultural communicative phenomenon embedded with social capital, collective memory, and identity values. Through the analysis of reports, narratives, and textual

documentation of live music practices, the study demonstrates that content analysis effectively captures the social and symbolic dimensions of music without disregarding the collective contexts and lived experiences that inform them. The alignment between these findings and the developed methodological frameworks indicates that music, as a social phenomenon, requires analytical approaches capable not only of detailing its musical structure but also of revealing how music constructs networks of meaning within society.

Meanwhile, in the domain of music psychology and behavior-based research, Karageorghis et al., (2022) employed content analysis to investigate the effects of music on the psychophysiological responses of drivers. The study revealed that music influences not only emotional states but may also shape risk perception, motor responses, and attentional awareness in specific contexts. Through the coding of participants' narrative responses, content analysis enabled the researchers to interpret the relationship between musical stimuli and their effects on the human cognitive system. These findings reinforce the notion that content analysis extends beyond interpreting musical entities and encompasses music's broader role as a stimulus within human experiential and behavioral processes. Nevertheless, the application of content analysis in music research is not without methodological challenges. Sturm, (2017) and Quinton, Spielmann, and Sturm, (2018) caution that in computationally based approaches to music analysis, automated content analysis systems often operate statistically rather than semantically. In other words, machines may successfully detect patterns yet fail to grasp the contextual aesthetic, cultural, or performative meanings embedded in musical content. This critique is significant, as it underscores that effective content analysis requires human interpretive reasoning to contextualize data and derive meaning. Consequently, the contemporary methodological framework for content analysis in music research calls for collaboration between human interpretative expertise and computational techniques rather than dominance of one over the other.

Based on these cumulative findings, it can be concluded that the application of content analysis in music research has evolved from a technical and descriptive approach into a methodology that is simultaneously epistemological and reflective. The model developed in this study not only reinforces the legitimacy of content analysis as a robust academic method in music research but also demonstrates its capacity to balance interpretative depth, contextual relevance, and analytical transparency. Thus, content analysis functions not as an alternative method, but as a methodological bridge connecting classical musicology, ethnomusicology, digital humanities, music psychology, and media- and technology-based music research. This study asserts that the proposed methodological framework is not only theoretically relevant but also compatible with contemporary global directions in music research. Moving forward, content analysis holds the potential to become one of the foundational methodological approaches for cross-paradigmatic music inquiry whether for examining symbolic structures of traditional music, performative dynamics of staged music, digital music algorithms, or musical expression as cultural signification and social representation.

#### 4. CONCLUSION

This study concludes that content analysis holds significant methodological potential to serve as a foundational approach in music research. Through conceptual synthesis with Krippendorff's work on content analysis and empirical examination of recent studies published in Scopus-indexed journals, the present study demonstrates that content analysis not only functions as a method for analyzing textual data but also operates as an epistemological framework capable of interpreting music as a representational form of meaning. In this context, music is not approached merely as a physical object or an assemblage of tonal structures, but as a symbolic, social, performative, and aesthetic phenomenon that embodies cultural messages and values. Accordingly, this study emphasizes that musical content is inseparable from its context, and content analysis enables scholars to reveal the interconnectedness between musical elements and the meanings embedded within them through systematic and argumentative procedures. The novelty of this study lies in formulating a methodological model based on content analysis specifically designed for music research. Based on examination of prior scholarly publications, the application of content analysis within the music field remains fragmented: some studies employ it to analyze song texts or metadata, others apply it in performance-oriented inquiries, while additional research uses it to map the social

and psychological impacts of music. However, no methodological model has been identified that positions content analysis as a primary method applicable across music research contexts. By addressing this gap, the present study contributes conceptually by proposing an analytical framework adaptable to diverse musical paradigms, including musicology, performance studies, ethnomusicology, music psychology, and digital humanities. This positions the study as an original methodological initiative offering an alternative format for musical analysis.

The findings further indicate that content analysis has the capacity to integrate interpretive and data-driven approaches. Recent empirical literature shows that music research is shifting toward methodological convergence between qualitative and computational approaches, particularly in response to developments in artificial intelligence, machine learning, and Music Information Retrieval. However, as noted by Sturm computational methods relying solely on statistical patterns are insufficient for capturing symbolic, contextual, and culturally situated musical meaning. In this regard, content analysis becomes an epistemological bridge that allows researchers to integrate the analytical strength of technology with human interpretive sensibility, ensuring that musical interpretation remains meaningful rather than being reduced to numbers, visualizations, or algorithmic patterns. Based on the methodological construction developed in this study, it is recommended that content analysis be considered one of the principal methodologies in music research. This method merits scholarly adoption due to its flexibility, clear operational structure, and applicability to various types of musical data, including audio recordings, visual performances, scores, musician narratives, lyrics, digital metadata, and cultural documentation. Moreover, the method facilitates scientific transparency, as analytical procedures such as data unitization, coding, categorization, interpretation, and validation can be systematically traced. Thus, content analysis not only offers practical methodological utility but also provides strong academic legitimacy within the context of music research methodologies. Ultimately, this study opens pathways for further development, including refinement of operational procedures, empirical testing of the model across different musical genres, and integration of content analysis with computational AI-based methods and digital ethnography. In this trajectory, content analysis has the potential to become a new methodological foundation in global music research a method capable not only of examining what is heard, but also of illuminating what is meant, enacted, and experienced through music.

## ACKNOWLEDGEMENTS

The author expresses sincere gratitude to the scholars whose foundational work in content analysis and music research particularly Klaus Krippendorff and the contemporary researchers whose publications are cited in this article has provided the theoretical and methodological basis for this study. Appreciation is also extended to colleagues and reviewers who contributed valuable insights during the development of this manuscript. Any remaining limitations are solely the responsibility of the author.

## REFERENCES

- Assarroudi, A., F. Heshmati Nabavi, M. R. Armat, A. Ebadi, and M. Vaismoradi. 2018. "Directed Qualitative Content Analysis: The Description and Elaboration of Its Underpinning Methods and Data Analysis Process." *Journal of Research in Nursing* 23(1):42–55. doi:10.1177/1744987117741667
- Bullerjahn, Claudia. 1994. "An Empirical Investigation of Effects of Film Music Using Qualitative Content Analysis." *Psychomusicology: A Journal of Research in Music Cognition* 13(1957):99–118.
- Buteau, C., K. Adiloğlu, O. Lartillot, and C. Anagnostopoulou. 2009. "Computational Analysis Workshop: Comparing Four Approaches to Melodic Analysis." Pp. 247–49 in *Communications in Computer and Information Science*. Vol. 37 CCIS. Brock University, Canada.
- Chen, N., and S. Wang. 2017. "High-Level Music Descriptor Extraction Algorithm Based on Combination of Multi-Channel CNNs and LSTM." Pp. 509–14 in *Proceedings of the 18th International Society for Music Information Retrieval Conference, ISMIR 2017*, edited by C. S.J., D. Z., H. X., and T. D. East China University of Science and Technology, China: International Society for Music Information Retrieval.
- Collins, N. 2025. "Recording Artist Career Comparison through Audio Content Analysis." *Royal Society Open Science* 12(7):22–46. doi:10.1098/rsos.241647.

- Coulston, F., F. Lynch, and D. F. Vears. 2025. "Collaborative Coding in Inductive Content Analysis: Why, When, and How to Do It." *Journal of Genetic Counseling* 34(3):32–66. doi:10.1002/jgc4.70030.
- Crawford, T., and L. Gibson. 2016. *Modern Methods for Musicology: Prospects, Proposals, and Realities*. Goldsmiths, University of London, United Kingdom: Taylor and Francis.
- Ding, Y., and A. Lerch. 2023. "Audio Embeddings as Teachers for Music Classification" Pp. 579–87 in *24th International Society for Music Information Retrieval Conference, ISMIR 2023 - Proceedings*, edited by S. A., A. F., S. M., B. P., D. S., L. B., R. G., and P. J. Music Informatics Group, Georgia Institute of Technology, United States: International Society for Music Information Retrieval.
- Elo, S., and H. Kyngäs. 2008. "The Qualitative Content Analysis Process." *Journal of Advanced Nursing* 62(1):107–15. doi:10.1111/j.1365-2648.2007.04569.x.
- Ferreira, S. 2023. "The Analysis of Content: A Method for Data Analysis in Qualitative Research" *Revista Pesquisa Qualitativa* 11(26):202–24. doi:10.33361/RPQ.2023.v11.n.26.502.
- García-Cembellín, J., F. Gértrudix-Barrio, and J. Barraca-Mairal. 2022. "Mixed Research as a Musical Interpretative Model" *Artseduca* 2(32):193–207. doi:10.6035/artseduca.6056.
- Graneheim, U. H., B. M. Lindgren, and B. Lundman. 2017. "Methodological Challenges in Qualitative Content Analysis: A Discussion Paper." *Nurse Education Today* 56(2):29–34. doi:10.1016/j.nedt.2017.06.002.
- Hoeven, Arno Van Der, and Erik Hitters. 2019. "The Social and Cultural Values of Live Music: Sustaining Urban Live Music Ecologies." *Cities* 90(July 2018):263–71. doi:10.1016/j.cities.2019.02.015.
- Huang, W., and Y. Zhang. 2020. "Application of Hidden Markov Chain and Artificial Neural Networks in Music Recognition and Classification." Pp. 49–53 in *ACM International Conference Proceeding Series*. Huazhong University of Science and Technology, 1037 Royu Road, Hongshan District, Wuhan City, Hubei, China: Association for Computing Machinery.
- Karageorghis, Costas I., William Payre, Luke W. Howard, Garry Kuan, Nick Reed, Andrew M. Parkes, Costas I. Karageorghis, William Payre, Luke W. Howard, Garry Kuan, Nick Reed, and Andrew M. Parkes. 2022. "Theoretical Issues in Ergonomics Science Influence of Music on Driver Psychology and Safety-Relevant Behaviours: A Multi-Study Inductive Content Analysis." *Theoretical Issues in Ergonomics Science* 23(6):643–62. doi:10.1080/1463922X.2021.2009933.
- Kawamoto, M., M. Koizumi, and F. Yoshikane. 2023. "Proposal of a Qualitative Content Analysis Process for a Solo Researcher." *Libri* 73(2):139–52. doi:10.1515/libri-2022-0068.
- Kibiswa, N. K. 2019. "Directed Qualitative Content Analysis (DQICA): A Tool for Conflict Analysis." *Qualitative Report* 24(8):2059–79. doi:10.46743/2160-3715/2019.3778.
- Köksal Apaydınlı. 2023. "Content Analysis of Music Education Studies Related to Augmented Reality Technology." *Journal of Educational Technology & Online Learning* 6(2):447–81. doi:10.31681/jetol.1243501.
- Kollipara, V. V., V. Siva Dinesh, P. R. Naga Kumar, T. Deepika, and M. Srinivas. 2025. "A Comparative Analysis of Traditional Machine Learning, Deep Neural Network, and Statistical Modeling for Music Genre Classification." Pp. 429–35 in *2025 International Conference on Artificial Intelligence and Data Engineering, AIDE 2025 - Proceedings*. Amrita Vishwa Vidyapeetham, Amrita School of Computing, Amaravati, India: Institute of Electrical and Electronics Engineers Inc.
- Koner, Karen. 2024. "Visions of Research in Music Education A Content Analysis of Graduate Degrees in Music Education in NASM Accredited Institutions A Content Analysis of Graduate Degrees in Music Education in NASM Accredited." *Visions of Research in Music Education* 46(2):1–22.
- van Kranenburg, P., A. Volk, and F. Wiering. 2013. "A Comparison between Global and Local Features for Computational Classification of Folk Song Melodies." *Journal of New Music Research* 42(1):1–18. doi:10.1080/09298215.2012.718790.
- Krippendorff, Klaus. 1980. *Content Analysis: An Introduction to Its Methodology*. SAGE Publications, Inc.
- Lailia, Khoridatun, Al Ayuni, Nanang Supriatna, and Iwan Gunawan. 2025. "Struktur Musikal Pada Opening Song 'Shinzou Wo Sasageyo' Dalam Serial Anime Attack on Titan Season 2." *OSTINATO: Journal of Music Study and Research* 1(1):44–57.
- Lindgren, B. M., B. Lundman, and U. H. Graneheim. 2020. "Abstraction and Interpretation during the Qualitative Content Analysis Process." *International Journal of Nursing Studies* 108(1):23–54. doi:10.1016/j.ijnurstu.2020.103632.
- Liu, Z. 2025. "AI-Driven Classification and Trend Analysis of Piano Music Genres Using Large Language Models." *International Journal of Information and Communication Technology* 26(12):32–48. doi:10.1504/IJICT.2025.146164.
- Maulana, M. R., Saputra, R. A., Sutisna, D. P., Putra, A. P. K. 2025. "Musicological Study : Analysis of Laras Ganda in T He Song "Angin " by Mang Koko." *Grenek: Jurnal Seni Musik* 14(1):9–16. doi:10.24114/grenek.v14i1.65601.
- Maulana, M. R., Gunawan, I. 2024. "The Role of Sekar Gending 'Kawitan' in Wayang Golek Purwa Performance."

- Virtuoso Jurnal Pengkajian Dan Penciptaan Musik* 7(1):77-90. doi:10.26740/vt.v1n1.p77-90.
- Maulana, M. R., Karwati, U. 2025. "Karawitan Analytical Study: Sekar-Gending 'Sungsang' as the Jejer Ngawitan in Sundanese Wayang Golek Purwa Performances." *Dewa Ruci: Jurnal Pengkajian Dan Penciptaan Seni* 20(22):1-17. doi:10.33153/dewaruci.v20i2.7339.
- Maulana, Marsel Ridky, Tri Karyono, and Ayo Sunaryo. 2024. "The Influence of Technology in Wayang Golek Purwa Performances : Combining Tradition and Innovation." *Virtuoso Jurnal Pengkajian Dan Penciptaan Musik* 7 No. 2(2):199-212. doi:10.26740/vt.v7n2.p199-212 The.
- Maulana, Marsel Ridky, and Rifani Syahru Romadlana. 2025. "Kajian Kepesendenan Sunda: Analisis Laras Dan Surupan Dalam Lagu 'Tablo Kasmaran' Karya Eutik Muchtar." *Musikolastika: Jurnal Pertunjukan Dan Pendidikan Musik* 7(1):41-54. doi:10.24036/musikolastika.v7i1.198.
- Maulana, Marsel Ridky, Yudi Sukmayadi, Ayo Sunaryo, and Soni Tresnadi. 2025. "Digitalizing Gamelan Degung : An Android-Based Application to Enhance Musicianship in Higher Education." *Promusika: Jurnal Pengkajian, Penyajian Dan Penciptaan Musik* 13(1):58-70. doi:10.24821/promusika.v13i1.15712.
- Maulana, Marsel Ridky, and Sutanto, Toni Setiawan. 2024. "Laras and Surupan in the Song Panghudang Rasa by Eutik Muchtar : A Study of Sundanese Kepesendenan." *Gondang: Jurnal Seni Dan Budaya* 8(2):355-66. doi:10.24114/gondang.v6i2.66505.
- Maulana, Marsel Ridky, Soni Tresnadi, Tati Narawati, Agus Budiman, and Miranto Suwandi. 2025. "The Gending ' Gorompol ' in the Sundanese Wayang Golek Purwa Performance : Analysis of Structure and Function." *Virtuoso Jurnal Pengkajian Dan Penciptaan Musik* 8(1):87-104. doi:10.26740/vt.v8n1.p87-104.
- Miksza, P., and E. Johnson. 2012. "Theoretical Frameworks Applied in Music Education Research: A Content Analysis of the Journal of Research in Music Education, 1979 to 2009." *Bulletin of the Council for Research in Music Education* 22(1):7-30. doi:10.5406/bulcouresmusedu.193.0007.
- Nakamura, E., T. Eipert, and F. C. Moss. 2025. "Historical Changes of Modes and Their Substructure Modeled as Pitch Distributions in Plainchant from the 1100 s to the 1500 S." Pp. 193-204 in *Lecture Notes in Computer Science*. Vol. 15236 LNCS, edited by Y. S., K.-M. R., A. M., K. T., and H. K. Kyoto University, Kyoto, Japan: Springer Science and Business Media Deutschland.
- Quinton, E., F. Spielmann, and B. L. Sturm. 2018. "Exploring Trends in Trinidad Steelband Music Through Computational Ethnomusicology." Pp. 63-75 in *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*. Vol. 11265 LNCS, edited by D. M.E.P., A. M., K.-M. R., and Y. S. Centre for Digital Music, Queen Mary University of London, London, United Kingdom: Springer Verlag.
- Ruin, S. 2019. "Categories as an expression of an identified observer perspective? A constructive proposal for a more qualitative qualitative content analysis." *Forum Qualitative Sozialforschung* 20(3):12-45. doi:10.17169/fqs-20.3.3395.
- Stephen M. Croucher, Daniel Cronn-Mills. 2024. "Content Analysis." Pp. 145-60 in *Understanding Communication Research Methods: A Theoretical and Practical Approach, Fourth Edition*. Taylor and Francis.
- Sturm, Bob L. 2017. "The 'Horse' Inside: Seeking Causes Behind the Behaviours of Music Content Analysis Systems." *Journal ArXiv* 45(1):1-31. doi:10.1145/2967507.
- Vestad, I. L. 2019. "Re-Thinking Systems of Meaning-Making: A Possible Theoretical Framework for Exploring Children's Engagement in Music and the Subject Positions of 'Rock-Boys' and 'Pop-Girls.'" Pp. 203-21 in *International Perspectives on Early Childhood Education and Development*. Vol. 27. Inland Norway University of Applied Sciences, Elverum, Norway: Springer.
- White, M. D., and E. E. Marsh. 2006. "Content Analysis: A Flexible Methodology." *Library Trends* 55(1):22-45. doi:10.1353/lib.2006.0053.
- Widmer, G. 2016. "Getting Closer to the Essence of Music: The Con Espressione Manifesto." *ACM Transactions on Intelligent Systems and Technology* 8(2):12-32. doi:10.1145/2899004.