



E-ISSN 2338-6770

Date of submission :-
Date of revision :-
Date received :-

Correspondence Address:
Thai Studies, Faculty of
Arts, Chulalongkorn
University 254 Phaya Thai
Rd, Wang Mai, Pathum
Wan, Bangkok 10330.
Email:
6688031022@student.chul

The Structure and Functions of the Musical Accompaniment of Kembang Mahameru Dance: An Ethnomusicological Study

Wahyu Firda Paskabhakti¹, Enie Wahyuning Handayani²

¹Surabaya State University, Surabaya, Indonesia

²Surabaya State University, Surabaya, Indonesia

Surel: wahyufirda.19074@mhs.unesa.ac.id¹, eniewahyuning@unesa.ac.id²

Abstract: *This study examines the structural presentation and functions of the musical accompaniment of Tari Kembang Mahameru from an ethnomusicological perspective. Tari Kembang Mahameru is a performing art from Lumajang Regency, East Java, inspired by the grandeur of Mount Semeru that blends East Javanese gamelan tradition with jaranan musical elements. This research employs a descriptive qualitative approach, with audiovisual recordings of the performance at the 2016 East Java Dance Festival accessed via YouTube as the primary data source. Analysis was conducted through repeated audiovisual observation and computational analysis of audio intensity data (RMS) using FFmpeg software. The results show that the musical accompaniment structure is divided into four main sections: introduction (0:00–1:34), development (1:34–2:52), climax (2:52–5:19), and closing (5:19–6:46). Each section has distinct musical characteristics through changes in tempo, rhythm, dynamics, and instrumentation including balungan, kendang, gong, jaranan trumpet, and vocals. Based on Merriam's (1964) theory of music functions, the accompaniment performs six dominant functions: emotional expression, aesthetic enjoyment, entertainment, communication, symbolic representation, and physical response. The close relationship between musical changes and dance movements is realized through the concept of wirama in Javanese performance aesthetics. This study contributes to the documentation and preservation of East Javanese traditional performing arts.*

Keywords: *ethnomusicology, music function, music structure, Kembang Mahameru Dance, traditional dance accompaniment*

1. INTRODUCTION

Music is an inseparable part of human life. Across various cultures around the world, music serves not only as entertainment but also as a medium of expression, communication, and representation of a community's social experiences (DeNora, 2015). This perspective indicates that music has dimensions far beyond a sequence of sounds, as it also reflects the values, beliefs, and cultural identity of the society that supports it.

In ethnomusicological studies, music is understood as a cultural phenomenon that cannot be separated from social life. Merriam (1964) explains that music should be understood not only as sound but also as cultural behavior that serves particular functions within society. These three interconnected dimensions—concept, behavior, and sound—form a tripartite model that serves as a fundamental analytical framework in ethnomusicology.



In traditional performing arts, musical accompaniment plays an important role because it functions not only as a support for dance movements but also as a means of creating atmosphere, strengthening dramatic elements, and guiding dancers' expressions. Supanggih (2018) explains that music in traditional performances functions to build *rasa* (artistic feeling), which influences the overall atmosphere of a performance. East Java, as one of Indonesia's provinces with a rich variety of traditional performing arts, possesses distinctive musical characteristics that are generally more energetic and dynamic, including the combination of gamelan and *jaranan* trumpet that has become one of its musical identities (Kunst, 1949).

One traditional performance that demonstrates a close relationship between music, dance, and culture is Kembang Mahameru Dance from Lumajang Regency. The dance is inspired by the grandeur of Mount Semeru, which holds deep symbolic meaning for the people of Lumajang and serves as a representation of spirit, strength, and the character of nature within the performance (Supanggih, 2018). Kembang Mahameru Dance was performed at the 2016 East Java Dance Festival and received recognition as one of the festival's outstanding performances, indicating its acknowledged artistic quality at the regional level.

Although Kembang Mahameru Dance has been featured in various regional art performances, scholarly studies specifically discussing the structure and functions of its musical accompaniment remain very limited. Previous studies, such as Nasution (2017) on the musical accompaniment of Gambyong Dance, Sari (2021) on the functions of musical accompaniment in Zapin Api Dance, and Samosir (2024) on the musical analysis of Piring Dance, have contributed to the study of traditional dance accompaniment. However, no research has specifically examined the musical accompaniment of Kembang Mahameru Dance, which uniquely combines East Javanese gamelan with the *jaranan* trumpet tradition. This limitation represents an academic gap that deserves further investigation through comprehensive research.

A comprehensive ethnomusicological study of musical accompaniment in traditional performing arts has become increasingly important. Hall (1997) argues that cultural identity is formed through ongoing processes of representation. In this context, the musical accompaniment of traditional dance is not merely a cultural artifact whose form must be preserved, but also an active and dynamic medium for representing cultural identity. Losing an understanding of the structure and functions of musical accompaniment means losing the ability to reproduce the cultural meanings embedded within it, even when the physical form of the performance can still be maintained.

Based on these considerations, this study aims to: (1) describe and analyze the structural presentation of the musical accompaniment in Kembang Mahameru Dance; and (2) identify and explain the functions of the musical accompaniment within the performance context from an ethnomusicological perspective. This study is expected to contribute to ethnomusicological scholarship, the documentation of regional performing arts, and efforts to preserve the cultural heritage of Lumajang Regency.

The relevance of ethnomusicological studies in the context of Indonesian traditional performing arts has become increasingly significant amid the pressures of globalization, which threaten the

sustainability of traditional arts. Nettl (2005) emphasizes that change and adaptation are inseparable parts of traditional musical life. However, changes that are not supported by a deep understanding of traditional musical structures and functions may lead to the loss of their cultural essence. By scientifically documenting and analyzing the musical accompaniment of Kembang Mahameru Dance, this study contributes to developing a more comprehensive understanding of East Java's rich musical heritage.

The relationship between music and dance in Javanese tradition also extends beyond purely technical aspects. Blacking (1973) states that music and dance are two forms of expression that originate from the same source, namely the human kinesthetic experience—the experience of the body moving through space and time. This perspective provides a philosophical foundation for understanding that, within Kembang Mahameru Dance, musical accompaniment is not a separate entity from the dance itself but rather an integral part of a unified artistic expression. Therefore, understanding the musical accompaniment means understanding an essential part of the performance's artistic identity.

2. METHODS

This study employed a qualitative approach with a descriptive research design. The selection of a qualitative approach was based on the consideration that the object of this study the musical accompaniment of Kembang Mahameru Dance is a complex and multidimensional cultural phenomenon that cannot be adequately understood through quantitative measurement alone. A qualitative approach enables researchers to capture the nuances and contexts that are integral to understanding musical phenomena from an ethnomusicological perspective (Sugiyono, 2019). More specifically, this study falls into the category of audiovisual document research. Barz and Cooley (2008) explain that the use of audiovisual documents as primary data sources is a valid and commonly applied approach in ethnomusicological research, particularly when performance recordings represent the only available evidence of a cultural event.

The primary data source of this study was an audiovisual recording of the Kembang Mahameru Dance performance presented at the 2016 East Java Dance Festival. The recording was publicly uploaded to YouTube by the *Seni Budaya* channel under the title "Festival Karya Tari Jawa Timur 2016 - Kab. Lumajang - Kembang Mahameru." The recording has a total duration of 6 minutes and 46 seconds and presents the performance in its entirety from beginning to end.

Data were collected through two techniques. First, repeated audiovisual document analysis was conducted to identify the divisions of performance sections, instrumentation, rhythmic patterns, tempo, and dynamics. Second, computational audio analysis was carried out using FFmpeg software to extract audio intensity data in the form of RMS (Root Mean Square) values from each time segment of the recording. RMS data represent the strength of the audio signal at a given moment, allowing changes in musical dynamics to be identified objectively and verified systematically.

Data analysis followed the interactive analysis model proposed by Miles and Huberman, consisting of data reduction, data display, and conclusion drawing (Sugiyono, 2019). Structural analysis referred

to Supanggih's (2018) framework on the structure of traditional performance music, while functional analysis employed Merriam's (1964) framework of the ten functions of music. Data validity was maintained through analytical consistency by replaying the recording at least three times, source triangulation through comparison with relevant literature, and transparency of data since the recording is publicly accessible.

The instrument identification process was conducted systematically through several stages. First, the researcher identified the sonic characteristics of each instrument based on timbre and playing patterns. Second, the identification was confirmed through literature on East Javanese gamelan organology, particularly the sound characteristics of the *balungan*, *kendang*, *gong*, and *jaranan* trumpet. Third, the entry and exit points of each instrument were recorded precisely according to the timestamps in the recording. This process enabled the mapping of changes in musical texture throughout the performance, which served as the basis for the structural analysis.

The use of FFmpeg as an audio analysis tool provided a level of objectivity that is relatively uncommon in conventional ethnomusicological studies. FFmpeg extracts RMS (Root Mean Square) values for each audio frame, representing the intensity of the audio signal at a particular moment. Higher RMS values indicate stronger dynamics, in which multiple instruments are performed with greater intensity, whereas lower RMS values indicate softer dynamics or relative silence. The data were subsequently normalized to a 0–100% scale to facilitate comparison between performance sections. This computational approach complements qualitative observational analysis by providing evidence that can be verified and replicated by other researchers.

Several limitations of this study should be acknowledged. As a study based on audiovisual recordings, the analysis could not capture dimensions of performance that can only be experienced through direct observation, such as interactions between musicians and dancers within the performance space, immediate audience responses, and other contextual aspects. In addition, instrument identification based on auditory analysis may differ from direct confirmation by the performers themselves. Future research involving field observation and interviews with musicians and artists involved in the performance would enrich and deepen the findings of this study.

3. RESULTS AND DISCUSSION

3.1 RESULTS

3.1.1 Overview of the Performance

Kembang Mahameru Dance employs an ensemble that combines East Javanese gamelan instruments with elements of *jaranan* music. The instruments identified in the performance recording include the *balungan* as the carrier of the principal melody, the *kendang* as the rhythmic leader, the *gong* as a structural marker, the *jaranan* trumpet which provides a distinctive East Javanese musical color, and vocal elements that play an important role in creating atmosphere and conveying the messages of the performance. The combination of these instruments produces a distinctive and energetic musical

character that reflects the identity of East Javanese performing arts.

3.1.2 Structure of the Musical Accompaniment

Based on the audiovisual analysis and RMS data, the musical accompaniment of Kembang Mahameru Dance can be divided into four main sections, each characterized by different musical features. Table 1 presents a summary of the structure of the musical accompaniment.

Table 1. Structure of the Musical Accompaniment of Kembang Mahameru Dance

Section	Timestamp	Instrumen Dominant	Vocal	Tempo	Characteristics
I (Introduction)	0:00–1:34	Balungan, Kendang, Jaranan Trumpet, Gong	Solo vocal (unaccompanied)	Fast-Moderate	Dynamic, introductory
II (Development)	1:34–2:52	Balungan, Gong, Kendang, Full Ensemble	Vocal passages, "hoo-hoo" vocalization	Moderate-Fast	Fluctuating, tension-building
III (Climax)	2:52–5:19	Full Ensemble	Male solo vocal, ensemble vocal	Fast	Dynamic, dramatic
IV (Closing)	5:19–6:46	Full Ensemble, Gong	Solo vocal, repeated vocal phrases	Fast- Slow	Solemn, <i>sembahan</i> atmosphere

3.1.2.1 Section I: Introduction (0:00–1:34)

The introduction section lasts for 94 seconds and is characterized by dynamic and varied musical features. From 0:00 to 0:08, the performance opens with a fast tempo played by the *balungan* and *jaranan* trumpet, creating an energetic opening impression. This immediately fast opening character is typical of East Javanese dance music, which is known for its expressive and vibrant style.

A dramatic contrast occurs between 0:08 and 0:58 when the music shifts to an unaccompanied solo vocal performance. The Javanese lyrics contain moral messages, including "*ojo seneng andum tresno yen kepengen mulyo kangmas bagus dinondro tresnoku mung lamis ujaring prasetyamu yen mung citro uripmu rekoso*" and "*ngelingono urip iki jo sembrono*." Blacking (1973) argues that vocal music in performance traditions functions as a medium for transmitting values and local wisdom. The unaccompanied solo vocal provides space for intense emotional expression while simultaneously communicating cultural values to the audience.

From 0:58 to 1:08, the *kendang* and *jaranan* trumpet re-enter without the *balungan*, performing a distinctive rhythmic pattern: *dung-tak-dung-tak-tak-dung-dung-dung*. Subsequently, from 1:08 to 1:34, the vocal returns accompanied by the *kendang* and *balungan* at a moderate tempo. RMS data indicate an average value of 62.1% in the introduction section, characterized by a contrast between dense and quiet

segments that reflects a musical strategy for establishing the dramatic atmosphere of the performance.

3.1.2.2 Section II: Development (1:34–2:52)

The development section lasts for 78 seconds and is marked by increasingly complex dynamic fluctuations. Between 1:34 and 1:52, the music becomes quieter, featuring only the *balungan* and *gong*. Beginning at a slow tempo and gradually accelerating without vocal accompaniment, this pattern creates musical tension and anticipation for the audience.

A significant dynamic change occurs between 1:52 and 2:20 when the full ensemble re-enters at a fast tempo. Another dramatic contrast appears between 2:20 and 2:42 as the music moves from a solo vocal passage to the sudden entrance of the *kendang* with the rhythmic pattern *dung-tak-dung-tak-dung-dung-dung*, followed by the entry of the full ensemble at maximum intensity. According to Merriam (1964), rhythmic patterns may function as a form of communication, and in this context the *kendang* pattern serves as a cue for dancers to increase the intensity of their movements.

The development section concludes between 2:42 and 2:52 with a “hoo-hoo” vocalization accompanied only by the *gong*, progressing from a slow to a fast tempo as a dramatic bridge toward the climax. RMS data show an average value of 63.7%, reflecting varied and fluctuating dynamics throughout this section.

3.1.2.3 Section III: Climax (2:52–5:19)

The climax is the longest and musically richest section of the performance, lasting 147 seconds. Between 2:52 and 3:38, all instruments are performed at a fast tempo with dynamic musical patterns. A dramatic contrast emerges between 3:38 and 3:58 when a male solo vocal appears accompanied only by the *balungan* and *gong* at a slower tempo, creating a reflective moment within the otherwise energetic performance.

A series of rapid changes in musical atmosphere follows: a full ensemble texture from 3:58 to 4:10; only the trumpet and *kendang* without the *balungan* from 4:10 to 4:25; the re-entry of the *balungan* from 4:25 to 4:42; and a solo vocal accompanied by the *balungan* and *gong* without the *kendang* from 4:42 to 5:01, creating a quieter atmosphere. The climax concludes with a very fast *kendang* pattern from 5:01 to 5:12, followed by a solo *balungan* passage that gradually accelerates from 5:12 to 5:19, building anticipation toward the closing section. RMS data show the highest average value of the performance, reaching 78.4%.

3.1.2.4 Section IV: Closing (5:19–6:46)

The closing section lasts for 87 seconds and features a dramatic structure. From 5:19 to 5:30, the *jaranan* trumpet and *balungan* re-enter, creating a lively and fast musical atmosphere. This is followed by two repetitions of the same pattern: a brief solo vocal passage followed by the entrance of the full ensemble at maximum intensity (5:30–5:39 and 5:39–5:53). This repetition technique is aesthetically effective in creating a satisfying final climax.

Between 5:53 and 6:46, the performance enters its most dramatic closing phase, featuring a solo vocal accompanied only by the gong. The tempo gradually slows down in conjunction with the increasingly slower *sembahan* dance movements, creating a solemn and contemplative ending. RMS data show a consistent decline from approximately 75% to 63%, reflecting a gradual musical resolution. The relationship between the slowing tempo and the *sembahan* movements reflects the concept of *wirama* in Javanese performance aesthetics, referring to the synchronization between movement and musical rhythm (Murgiyanto, 1983).

Tabel 2. Audio Intensity (RMS) Data by Performance Section

Section	Timestamp	Average RMS (%)	Min (%)	Maks (%)	Dynamic Category
I (Introduction)	0:00–1:34	62,1	41,7	71,1	Moderate
II (Development)	1:34–2:52	63,7	37,1	76,0	Moderate- Fluctuating
III (Climax)	2:52–5:19	78,4	55,0	82,6	Strong
IV (Closing)	5:19–6:46	74,3	63,1	84,4	Strong–Decreasing

3.2 DISCUSSION

3.2.1 Functions of the Musical Accompaniment

Based on the analysis of the performance recording and relevant literature, the musical accompaniment of Kembang Mahameru Dance performs six dominant functions within Merriam's (1964) framework of the ten functions of music.

3.2.1.1 Emotional Expression Function

The emotional expression function is most clearly manifested through the presence of unaccompanied solo vocal passages in several sections of the performance. The lyrics "*ojo seneng andum tresno yen kepengen mulyo*" and "*ngelingono urip iki jo sembrono*" convey profound moral messages concerning life and loyalty. The contrast between dense and quiet musical segments—such as the transition from the full ensemble to the male solo vocal between 3:38 and 3:58—reflects a rich emotional dynamic. This change demonstrates how music is used to express feelings that are difficult to communicate through verbal language alone (Merriam, 1964).

Emotional expression in Kembang Mahameru Dance is not manifested solely through vocal elements but also through changes in instrumental texture. When the music moves from a full ensemble texture to relative silence through solo vocal passages, an emotional shift occurs from a collective and social atmosphere toward a more personal and individual experience. Such transitions create space for the audience to experience a wide range of emotional gradations within a relatively short performance, from collective enthusiasm to personal contemplation.

3.2.1.2 Aesthetic Enjoyment Function

Aesthetic enjoyment is created through the unique combination of East Javanese gamelan instruments and the *jaranan* trumpet. The presence of the *jaranan* trumpet establishes a distinctive aesthetic identity that differentiates this

performance from conventional gamelan presentations. In addition, the repetition of the pattern consisting of solo vocal passages followed by the entrance of the full ensemble during the closing section (5:30–5:53) serves as an effective musical technique for creating a satisfying final climax for the audience.

The aesthetic value of the musical accompaniment also lies in its ability to balance contrast and continuity. Variations in tempo, texture, and dynamics prevent monotony while maintaining the coherence of the overall performance structure. As a result, the audience experiences a performance that remains engaging from beginning to end.

3.2.1.3 Entertainment Function

As a performance presented at the 2016 East Java Dance Festival, the musical accompaniment functions as an important source of entertainment. Frequent and dramatic changes in musical atmosphere contribute to the creation of an engaging performance experience. The energetic musical character that appears from the very beginning serves as an effective strategy for attracting and maintaining audience attention throughout the performance (Merriam, 1964).

The entertainment function is further strengthened by the dynamic interaction between instrumental and vocal elements. The alternation between energetic ensemble passages and quieter vocal sections creates variety, preventing audience fatigue and sustaining interest throughout the performance.

3.2.1.4 Communication Function

The communication function is manifested in two dimensions. First, communication occurs between the music and the dancers through *kendang* rhythmic patterns that function as movement cues. The sudden entrance of the *kendang* between 2:20 and 2:42 serves as a signal for dancers to increase the intensity of their movements. Second, communication occurs between the music and the audience through vocal lyrics that contain moral messages about life.

The communicative relationship between music and dancers demonstrates a musical language system that has become a shared convention among performers. Within the East Javanese performance tradition, the *kendang* player often functions as a musical leader who directs the flow of the performance through rhythmic variations. Understanding this communication system requires shared performance experience and reflects the social dimension of music emphasized by Merriam (1964) in his concept of music as social behavior.

3.2.1.5 Symbolic Representation Function

The musical structure, which develops from varied dynamics toward a powerful climax, symbolically represents a journey toward the summit of Mount Semeru—a journey filled with challenges that ultimately culminates in grandeur and achievement. The use of the *jaranan* trumpet also functions as a symbolic representation of East Javanese cultural identity, which forms the cultural context of the dance.

The symbolic representation of Mount Semeru operates on several levels. At the narrative level, the progression from the introduction to the climax reflects the symbolic journey of ascent, from the foothills to the majestic summit. At the

emotional level, the gradual increase in intensity from the introduction section (62.1% RMS) to the climax section (78.4% RMS) represents the growing sense of admiration and reverence associated with approaching a mountain that holds significant cultural meaning. At the cultural level, the combination of gamelan instruments and the *jaranan* trumpet represents the collective identity of East Javanese society, which preserves and integrates multiple musical traditions within a unified performance.

3.2.1.6 Physical Response Function

The physical response function is most clearly observed in the closing section, where the increasingly slower *sembahan* movements correspond closely with the gradual slowing of the musical tempo. The solemn *sembahan* movements are supported by the atmosphere created through the solo vocal and *gong* accompaniment between 5:53 and 6:46, reflecting the concept of *wirama* in Javanese performance aesthetics (Murgiyanto, 1983).

The physical responses generated by music are not limited to the dancers' movements but may also influence audience reactions. The fast tempo and strong dynamics of the climax section tend to increase physiological engagement and tension, while the gradual slowing of tempo in the closing section encourages relaxation and creates a sense of aesthetic satisfaction. These physical responses often operate beyond conscious awareness, allowing music to function as a form of communication that extends beyond verbal and visual expression.

3.2.2 Between the Structure and Functions of the Musical Accompaniment

The analysis reveals a close relationship between the structure and functions of the musical accompaniment. Each structural decision serves a specific functional purpose within the performance. In the introduction section, the unaccompanied solo vocal passage between 0:08 and 0:58 represents a structural choice that supports both emotional expression and the communication of cultural values to the audience. In the development section, the *kendang* rhythmic patterns function as cues for movement transitions, demonstrating how the communication function is embedded within the musical structure.

In the climax section, the highest RMS intensity value (78.4%) supports the entertainment and aesthetic enjoyment functions. The internal complexity of the section, characterized by frequent alternations between full ensemble passages and solo vocal segments, creates a rich aesthetic experience for the audience. In the closing section, the gradual musical resolution reflected in the decrease of RMS values from approximately 75% to 63% corresponds closely with the *sembahan* movements, illustrating both the physical response function and the symbolic representation of the completion of a journey toward the summit.

These findings are consistent with Supanggah's (2018) view that music in traditional performances functions as a dramatic structure that shapes the overall artistic feeling of a performance. Furthermore, the combination of East Javanese

gamelan instruments and the *jaranan* trumpet reflects the process of creative adaptation described by Nettl (2005) as an inseparable aspect of traditional musical life. Kembang Mahameru Dance therefore represents an example of how musical traditions can adapt while maintaining their cultural identity.

The relationship between structure and function in the musical accompaniment also reflects what Hood (1971) describes as *bi-musicality* in a broader sense—the ability of music to operate simultaneously at technical-structural and cultural-functional levels. The composer or music arranger of the performance functions not only as a musical technician who organizes sounds and rhythms but also as a cultural artist who shapes emotional and cultural experiences for the audience. Understanding this dual role is important for anyone seeking to preserve or develop traditional performing arts in an authentic manner.

An important implication of this relationship is that no musical element within the performance appears arbitrary or merely decorative. Decisions regarding the entrance of vocals, the dominance of particular instruments, and changes in tempo are all components of a culturally tested system that contributes to meaningful aesthetic and cultural experiences. Understanding this system is therefore essential for preservation efforts that seek not only to maintain the external form of a tradition but also to sustain its cultural significance.

3.2.3 In-Depth Analysis of Musical Structure in Each Section

A closer examination of each section of the performance reveals structural patterns that extend beyond a simple temporal division. Each section demonstrates its own internal musical logic, reflecting careful artistic planning in the construction of the dance performance.

3.2.3.1 Introduction Dynamics as an Opening Strategy

The introduction section of Kembang Mahameru Dance presents a distinctive opening strategy characterized by a direct and energetic musical entrance. Unlike many traditional gamelan performances that gradually build atmosphere, this section begins with a fast tempo performed by the *balungan* and *jaranan* trumpet. This approach reflects the expressive character of East Javanese performance traditions (Kunst, 1949).

A significant contrast occurs when the full instrumental texture suddenly shifts to an unaccompanied solo vocal passage. This contrast directs audience attention toward the lyrical content, which contains moral messages expressed in the Javanese language. In accordance with Merriam (1964), the vocal element functions not only as a musical component but also as a medium for communicating cultural values.

The return of the *kendang* and *jaranan* trumpet near the end of the introduction gradually restores musical intensity and prepares the transition into the development section. The RMS average of 62.1% indicates a moderate dynamic level characterized by contrasts between dense and sparse musical textures.

3.2.3.2 Dramaturgical Techniques in the Development Section

The development section demonstrates the deliberate use of dynamic contrast to build dramatic tension. Alternations between quieter passages and full instrumental textures create variation in musical intensity and maintain audience engagement throughout the performance.

The RMS data show the widest dynamic fluctuation in this section, ranging from 37.1% to 76.0%. These fluctuations suggest that the section functions as a bridge between the introduction and climax. The appearance of the *kendang* as a rhythmic signal also reinforces its communicative role in coordinating movement transitions within the dance performance.

The “hoo-hoo” vocalization accompanied only by the gong serves as a transitional device leading into the climax. This brief passage creates anticipation and contributes to the overall dramatic structure of the performance.

3.2.3.3 Internal Complexity of the Climax Section

The climax section exhibits the highest level of musical intensity and structural complexity. Frequent changes in instrumentation, tempo, and vocal presence create a dynamic musical environment that sustains dramatic tension throughout the longest section of the performance.

The selective use of the *jaranan* trumpet contributes significantly to the musical color of this section. Rather than appearing continuously, the instrument is used strategically to emphasize particular moments and strengthen dramatic contrast. Similarly, the alternation between full ensemble passages and solo vocal segments enriches the expressive quality of the performance.

The highest RMS value (78.4%) recorded in this section confirms its role as the dramatic peak of the performance. The gradual acceleration of tempo toward the end of the section further reinforces the movement toward the concluding segment.

3.2.3.4 Dramaturgy of Resolution in the Closing Section

The closing section functions as a musical resolution through the gradual reduction of tempo and instrumental density. Repeated alternations between solo vocal passages and full instrumental textures create a final dramatic peak before the performance moves toward closure.

The final phase is characterized by solo vocal lines accompanied primarily by the gong, producing a solemn atmosphere that supports the *sembahan* movements performed by the dancers. The gradual decline in RMS values from approximately 75% to 63% reflects the systematic reduction of musical intensity.

This combination of slowing tempo, reduced instrumentation, and ceremonial movement creates a satisfying conclusion while reinforcing the symbolic and emotional dimensions of the performance.

3.2.4 Comparison with Previous Studies

A comparative review of previous studies provides a broader perspective on the position of this research within the landscape of Indonesian ethnomusicological scholarship. In general, studies of musical accompaniment in Indonesian traditional dance can be grouped into two major orientations: a structural orientation that focuses on musical elements such as rhythm, tempo, and instrumentation, and a functional orientation that emphasizes the role of music within performance and social contexts. This study integrates both perspectives through Merriam's (1964) framework, which views music as a phenomenon that is simultaneously structural and functional.

The findings of this study demonstrate both similarities and differences when compared with previous research on traditional dance accompaniment. Nasution (2017), in a study of Gambyong Dance, found that musical accompaniment plays an important role in shaping the atmosphere of a performance. This finding is consistent with the present study. However, the musical accompaniment of Kembang Mahameru Dance exhibits a higher degree of structural complexity through its instrumental variation and more dramatic use of dynamic contrast than that reported in the accompaniment of Gambyong Dance.

Similarly, Sari (2021), in research on Zapin Api Dance, identified several functions of music, including providing rhythm, creating atmosphere, reinforcing expressive movement, and motivating dancers. These functions are also evident in the musical accompaniment of Kembang Mahameru Dance. However, the present study adds the dimension of symbolic representation, particularly in relation to the cultural narrative of Mount Semeru, which distinguishes it from the context examined by Sari.

Samosir (2024), in an analysis of Piring Dance, emphasized the importance of the relationship between tempo, rhythm, and dance movement. The findings of the present study support this conclusion while also providing quantitative evidence through RMS data that demonstrate a correlation between audio intensity and changes in movement character. The incorporation of computational audio analysis therefore represents a methodological contribution that distinguishes this study from previous research relying exclusively on observational methods.

Pelupessy (2014), in a study of Cakalele Dance, found that instrument selection is closely related to the cultural character being represented. This observation is highly relevant to the present study, in which the inclusion of the *jaranan* trumpet is not merely an aesthetic choice but also a deliberate expression of East Javanese cultural identity. Nevertheless, the cultural context of East Java, with its associations of strength and vitality reflected in *jaranan* music, differs significantly from the cultural context of Maluku that underlies Cakalele Dance.

Overall, this study reinforces a broader consensus within Indonesian ethnomusicology that the musical accompaniment of traditional dance cannot be understood solely through

technical musical analysis. Instead, it must be interpreted within wider cultural, social, and dramaturgical contexts. The uniqueness of Kembang Mahameru Dance lies in its integration of two musical traditions—*gamelan* and *jaranan*—which together create a distinctive musical identity that reflects the richness and complexity of East Javanese culture.

3.2.5 Implications for the Preservation of Traditional Performing Arts

The findings of this study have important implications for the preservation of traditional performing arts, particularly in Lumajang Regency. A comprehensive understanding of the structure and functions of the musical accompaniment can serve as a reference for arts education and cultural preservation programs. The structural analysis presented in this study may also support the transmission of East Javanese musical traditions to younger generations.

This research further demonstrates the value of combining audiovisual documentation with scholarly analysis. Such documentation provides an important reference for future artists, researchers, and cultural institutions involved in preserving traditional performing arts (Barz & Cooley, 2008).

Methodologically, the integration of qualitative ethnomusicological analysis with computational audio analysis offers a more comprehensive approach to studying traditional music. Future studies may expand this approach by incorporating field observations and interviews with musicians, choreographers, and performers to gain a deeper understanding of creative processes and performance practices.

4. CONCLUSION

This study identified four structural sections within the musical accompaniment of Kembang Mahameru Dance: introduction, development, climax, and closing. Each section demonstrates distinctive musical characteristics through variations in tempo, rhythm, dynamics, vocal elements, and instrumentation. RMS data reveal a gradual increase in intensity toward the climax, followed by a decrease during the closing section, reflecting a carefully organized dramatic structure.

The findings indicate that the musical accompaniment fulfills six dominant functions based on Merriam's framework: emotional expression, aesthetic enjoyment, entertainment, communication, symbolic representation, and physical response. These functions are closely related to the musical structure and contribute significantly to the overall artistic experience of the performance. Therefore, the musical accompaniment serves not merely as support for the choreography but as an essential component in constructing meaning, atmosphere, and cultural identity within Kembang Mahameru Dance.

Future studies are encouraged to incorporate field observations and interviews with performers and music arrangers to obtain a more

comprehensive understanding of the creative processes behind the musical accompaniment.

THANK YOU

The author would like to express sincere gratitude to the late Widji Sudjatmiko, S.H., Siti Choiriyah, and the author's siblings, Illiyin Dewi Masitho, Devi Febriyanti, and Candra Widyarta, for their prayers, encouragement, and continuous support throughout the completion of this study.

The author also extends sincere appreciation to Linda Apriliyanti, S.Pd., the choreographer of Kembang Mahameru Dance, and Yuniawan Tri Romadlona, S.Sn., the composer of Kembang Mahameru Dance, for their willingness to share their knowledge, experiences, and valuable contributions to this research.

REFERENCE

- Adam Nasution, A. A. (2017). *Kajian bentuk dan fungsi musik iringan tari Gambyong di Sanggar Tari Jawa Cipto Budaya Helvetia Medan* [Skripsi, Universitas Negeri Medan].
- Banoë, P. (2003). *Kamus musik*. Kanisius.
- Barz, G., & Cooley, T. J. (2008). *Shadows in the field: New perspectives for fieldwork in ethnomusicology* (2nd ed.). Oxford University Press.
- Blacking, J. (1973). *How musical is man?* University of Washington Press.
- DeNora, T. (2015). *Music in everyday life*. Cambridge University Press.
- Hall, S. (1997). *Representation: Cultural representations and signifying practices*. Sage Publications.
- Harnish, D. (2016). *Sacred and secular music of Indonesia*. University of Hawai'i Press.
- Hood, M. (1971). *The ethnomusicologist*. McGraw-Hill.
- Jamalus. (1988). *Pengajaran musik melalui pengalaman musik*. Departemen Pendidikan dan Kebudayaan.
- Kunst, J. (1949). *Music in Java* (Vol. 1). Martinus Nijhoff.
- Merriam, A. P. (1964). *The anthropology of music*. Northwestern University Press.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications.
- Murgiyanto, S. (1983). *Koreografi: Pengetahuan dasar komposisi tari*. Departemen Pendidikan dan Kebudayaan.
- Nettl, B. (2005). *The study of ethnomusicology: Thirty-one issues and concepts*. University of Illinois Press.
- Nurmalita Sari, A. (2021). *Fungsi musik pengiring tari Zapin Api Desa Teluk Rhu Kecamatan Rupa Utara Kabupaten Bengkalis Provinsi Riau* [Skripsi, Universitas Islam Riau].
- Pelupessy, S. D. (2014). *Kajian musik pengiring pada tari Cakalele di Medan* [Skripsi, Universitas Negeri Medan].
- Perlman, M. (2004). *Unplayed melodies: Javanese gamelan and the genesis of music theory*. University of California Press.
- Pigeaud, T. G. T. (1938). *Javaanse volksvertoningen*. Volkslectuur.
- Prier, K. E. (2011). *Ilmu bentuk musik*. Pusat Musik Liturgi.
- Pulungan, M. A. (2020). *Musik iringan tari persembahan di Lembaga Seni Semenda* [Skripsi, Universitas Negeri Medan].

- Samosir, H. (2024). *Analisis musik pengiring tari Piring Lenggok Si Anak Dagang di Sanggar Tri Arga Medan ciptaan Iskandar Muda*, M.Sn [Skripsi, Universitas Negeri Medan].
- Soedarsono. (2002). *Seni pertunjukan Indonesia di era globalisasi*. Gadjah Mada University Press.
- Sugiyono. (2019). *Metode penelitian kualitatif, kuantitatif, dan R&D*. Alfabeta.
- Sunjata, P. (2008). *Mitologi gunung dalam tradisi Jawa*. Narasi.
- Supanggih, R. (2018). *Bothekan karawitan II: Garap*. ISI Press.
- Yohannes Panjaitan. (2016). *Bentuk penyajian dan fungsi musik pengiring tari Barongsai dalam acara ulang tahun Viharra Kuan Theng Bio ke-11 pada Group Viharra Setia Buddha Binjai* [Skripsi, Universitas Negeri Medan].