



The Challenge of Aesthetic Transformation in Shadow Puppet Performances in the Digital Era: A Case Study of Live Streaming Performances on YouTube

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ABSTRACT

This research examines the challenges faced in the aesthetic transformation of traditional shadow puppet performances broadcasted via live streaming on YouTube. Data was collected through in-depth observations of YouTube channels that stream shadow puppet performances live, supplemented by analyses of viewers' comments and interactions, as well as references to interviews with puppeteers and channel managers from relevant studies. Using a qualitative approach with thematic content analysis and phenomenology, this study analyses how the shift from traditional screen to digital screen media affects the visual, audio, and interactional aspects of the performances. The findings identify key challenges, including maintaining a balance between technological innovation and the preservation of cultural authenticity, addressing the loss of the immersive atmosphere of live performances, and facing the potential weakening of cultural integrity through digital adaptation. Although YouTube has succeeded in expanding audience reach and increasing engagement, particularly among younger generations, this transition demands ongoing adaptation from puppeteers and organizers. The study concludes that the aesthetic transformation of shadow puppetry in the digital era is a complex process that requires wise strategies to harness the potential of digitalization

- without eroding cultural essence and necessitates collaboration among artists, communities, and technology developers.

Keywords: Shadow puppetry, aesthetic transformation, art digitalization, cultural preservation, adaptation challenges.

Introduction

Wayang kulit or shadow puppet, as one of the masterpieces of Indonesia's intangible cultural heritage recognized by UNESCO, not only represents the richness of performing arts but also the philosophical and spiritual depth of Javanese society. Traditionally, the puppet show was originally a communal ritual held in a physical space, with the puppeteer as the centre, accompanied by gamelan, and illuminated by oil lamps (*blencong*) (Arafahan et al., 2022; Fitria, 2023). The aesthetic of this performance is very thick with sacred values, direct interaction between the puppeteer and the audience, and an immersive experience that can only be felt in a live atmosphere (Sari et al., 2025; Siringo-ringo et al., 2022).

In a digital age marked by the convergence of media and the speed of information, this traditional art is facing new dynamics. Platforms such as YouTube have become a vital arena for puppets to adapt, evolve, and even revitalize themselves (Arifin, 2024; Gono & Rakhmad, 2021, 2022; Pratiwi, 2024; Putri, 2024; Ramadhan, 2023). This shift has fundamentally changed the landscape of *wayang kulit* performances. Since the COVID-19 pandemic, the phenomenon of live streaming of puppet shows on YouTube has experienced significant growth, signaling the revival of the aesthetic of virtual puppets tailored to the artistic sensibilities of puppeteers and digital audiences (Gono & Rakhmad, 2021; Sari et al., 2025). This event is not just an adaptation, but a transformation that affects all aspects of the show's aesthetic.

This aesthetic transformation includes changes in lighting, sound, visualization, and interaction patterns between the puppeteer and the audience (Hadiprashada, 2019). Digital platforms enable real-time interaction between viewers through chat features, creating a more participatory and democratic experience (Keskin & Hasirci, 2024; Liew et al., 2022; Meisner & Ledbetter, 2022). This accessibility is especially important in the digital age, where learning and entertainment are no longer limited by physical space (Lamirin et al., 2024).

Although digitalization offers a golden opportunity for the preservation and expansion of the reach of *wayang kulit*, the accompanying challenges are no less complex (Hakim & Kusumastiti, 2022). Concerns about the loss of the immersive atmosphere of live performances, potential threats to authenticity, and the risk of weakening cultural integrity are crucial issues that need to be examined (Lamirin et al., 2024). In addition, there are concerns about the commodification of art that can reduce the philosophical and sacred meaning of *wayang kulit* (Sunardi et al., 2025; Whinarno & Arifin, 2019). Balancing innovation with originality is key to ensuring that *wayang kulit* evolves without losing its cultural roots (Gono & Rakhmad, 2021; Ranuhandoko et al., 2024; Salsabila et al., 2025; Sunardi et al., 2025).

This study aims to identify and analyze the challenges that arise in the transformation of the aesthetic of puppet performances in the digital era, especially

through the live streaming platform YouTube (Cohen, 2019; Meloni & Allasso, 2023). This study seeks to provide a comprehensive understanding of the dynamics of traditional art adaptation by examining how technology affects visual and audio elements, as well as the interaction between the puppeteer and the audience. Focusing on challenges will pave the way for more effective and innovative conservation strategies and ensure the relevance of *wayang kulit* in the context of modern education and culture (Fibiona et al., 2024; Kasinathan et al., 2024; Rianto et al., 2023).

This study will also fill the void of literature that often focuses on the positive potential of digitalization, but lacks depth in terms of challenges and implications for the authenticity of the aesthetics of *wayang kulit*. This research is expected to make a significant academic contribution to the discussion on cultural and technological adaptation in the field of traditional performing arts, as well as offer practical recommendations for artists, governments, and cultural communities in the face of the digital age.

Methods

This study uses a qualitative approach with phenomenological methods and case studies to understand the aesthetic transformation of puppet performances broadcast live streaming on YouTube. The phenomenological approach was chosen because of its focus on the subjective experiences and perceptions of the performers and audience in a digital context, so as to be able to explore the deep meaning of the aesthetic changes and interactions that occur during the performance. Case studies were conducted on several YouTube channels that consistently broadcast puppet shows, including popular puppeteer channels such as Ki Seno Nugroho and Ki Sigit Ariyanto, as well as cultural institution channels that actively document traditional performances digitally on the Sanggar Cemara channel.

The main data were collected through digital participatory observation, i.e. researchers actively watched and recorded visual, audio, and digital interaction aspects during or after the live stream. This observation includes an analysis of lighting, sound, additional visual elements such as animations and text overlays, as well as communication patterns between the puppeteer and the audience through the live chat feature. In addition, data was also obtained through audience comment analysis that provided an overview of audience responses to aesthetic innovations and online viewing experiences. This data collection technique allows researchers to capture the dynamics of performance in depth, according to the characteristics of digital media (Campbell et al., 2020; Gono & Rakhmad, 2021; Gray, 1979; Guntur, 2016).

As a complement, the study also integrates the results of semi-structured interviews that have been conducted in previous studies with puppeteers, channel managers, and active audiences. This interview provides an internal perspective on motivations, challenges, and adaptation strategies in the face of aesthetic transformation in the digital era. Informants were selected purposively based on their involvement and experience in digital puppet performances, so that the data obtained was relevant and context-rich.

Data analysis was carried out using thematic content analysis techniques, which allowed researchers to identify key patterns and themes related to aesthetic innovation, digitalization challenges, and audience perception. The analysis process includes data familiarization, coding, theme search and review, and systematic interpretation of results.

▪ This approach is combined with semiotic analysis to interpret the symbolic meaning of visual and audio elements that appear in digital performances. The validity of the data is maintained through triangulation between observation, commentary analysis, and interviews, so that the research findings have a strong and accountable basis.

This method allows research to capture the complexity of the aesthetic transformation of *wayang kulit* in the digital world, including how technology affects the presentation of traditional art, interaction with audiences, as well as the challenges faced by art actors in maintaining cultural authenticity. This phenomenological qualitative approach and case study provide a holistic picture rich in meaning and context, perfect for examining dynamic and contextual performing arts phenomena such as digital puppetry on YouTube.

Findings and Discussion

1. Aesthetic Transformation in Digital *Wayang kulit* Performance

1.1. Changes in Lighting System

Observations of various live streaming shows of *wayang kulit* on YouTube show a significant aesthetic shift. This transformation is not only technical, but also affects the audience experience and artistic expression of the puppeteer.

Traditionally, in the past, *wayang kulit* performances were illuminated by "*blencong*" (oil lamps) which created the shadow of the puppet with nuances of warmth and mysticism. In this decade, the oil lamp has been replaced by electric lamps, even adding colorful LED lights and modern lighting systems. In YouTube shows, this is clearly seen in performances uploaded by several institutions, as well as by popular puppeteers such as Ki Seno Nugroho (before his death) or Ki Bayu Aji. LED lights allow for more precise control of the intensity, color, and direction of light, creating a more dynamic visual effect that fits the storyline. For example, battle scenes are often accompanied by dramatic red or blue flashes, while romantic scenes may use soft, yellow-hued lighting.



Figure 1. Puppet show with oil lamp illumination or "*blencong*"

The use of these LED lights, while increasing visibility and visual appeal for digital viewers, also poses challenges. First, the loss of the immersive atmosphere that is usually present in live performances (Fibiona et al., 2024; Fitria, 2023; Lamirin et al., 2024). The

- shadows produced by LED lights tend to be sharper and less "lively" than the fluctuating and mystical shadows. This can reduce the spiritual or sacred experiences often associated with traditional puppetry. Second, the puppeteer had to adapt to this new lighting system so as not to spoil the essence of the show.



Figure 2. Puppet Show with Colorful Lights

The appearance of puppets in the digital version or in YouTube can vary greatly because they can be front and back. This is what Real Time cannot be directly enjoyed by live audiences. In addition, digital viewers can focus more on the detailed movements of the characters because often the characters are shown in close up using the Zoom feature on the camera. It has its disadvantages and advantages. The advantage is that the digital audience can carefully observe the par-scene scenes and even the detailed movements of the characters, but this digital audience loses the atmosphere of the show in general where when the performance takes place the live audience can witness the entire atmosphere of the performance, not only the puppets that are played at that time but also the puppets that are arranged on the left and right sides of the puppeteers. Digital viewers cannot choose which ones to see directly because they only follow what is shown by the camera, while the live audience can choose what they will watch whether they will watch the movements of the puppets or when the puppets are in static conditions can see or direct their eyes to the gamelan or even direct their eyes to other places.

1.2. Audio Innovation: Digitization of Sound Systems

The audio quality in live streaming has also undergone a significant transformation. Modern microphones and digital sound systems allow the voices of puppeteers, pesinden, and gamelan to be recorded with greater clarity and detail. In contrast to traditional performances where sound often relies on the natural acoustics of the location, on digital platforms, sound can be professionally processed and balanced. Some shows even add digital sound effects such as thunder, animal sounds, or other dramatic effects to amplify the mood of the story.



Figure 3. Modern sound system in puppet shows
(https://www.youtube.com/watch?v=tigvUcGhx_o)

The main challenge here is to maintain the authenticity of the gamelan sound. Although the quality of recordings is improved, the feel and resonance of acoustic gamelan played live in open spaces is often difficult to fully capture through digital recordings. There is a risk that the gamelan sound becomes too "clean" or loses its original character in the process of digitization. Some puppeteers argue that improving audio quality is essential to reach audiences accustomed to modern sound standards.

1.3. Adaptation of Narrative and Dramaturgy: Flexibility and Compression

Live streaming on YouTube also affects the adaptation of the narrative and dramaturgy of the puppet puppet. The duration of the show is often adjusted to be more digital audience-friendly who have a shorter attention span. Some puppeteers do story compression or focus on important scenes to keep the audience engaged. This flexibility allows puppeteers to explore new stories or even adapt contemporary issues into puppet plays, making them relevant to younger generations.

However, the challenge that arises is the potential for oversimplification that can reduce the philosophical and moral depth of the puppet story. The heritage of shadow puppets is rich in ethical and spiritual teachings (Lamirin et al., 2024), and imprecise compression can eliminate this essence. Puppeteers must find a balance between maintaining traditional narrative and doctrinal structures with the need to adapt the duration and style of presentations to digital formats.

2. Digital Interaction and Audience Engagement: Opportunities and Complications

One of the most significant innovations in puppet live broadcasting is the ability to interact in real-time between viewers and even with puppeteers or moderators through the live chat feature on YouTube. The live chat feature allows the audience to convey thoughts, ask questions, or interpret the teachings conveyed, making them active participants in the narrative (Lamirin et al., 2024). This engagement substantially enhances the viewing experience, particularly among young and tech-savvy audiences who were previously less familiar with puppetry or its philosophical teachings. Improved accessibility also allows viewers from different geographic locations to engage in the show

- in real-time or watch a recorded version of the show at their own pace (Lamirin et al., 2024). This goes beyond the limitations of physical space that traditionally limit audiences to local communities. The ability to reach this global audience far outweighs its potential drawbacks in moving the show online.

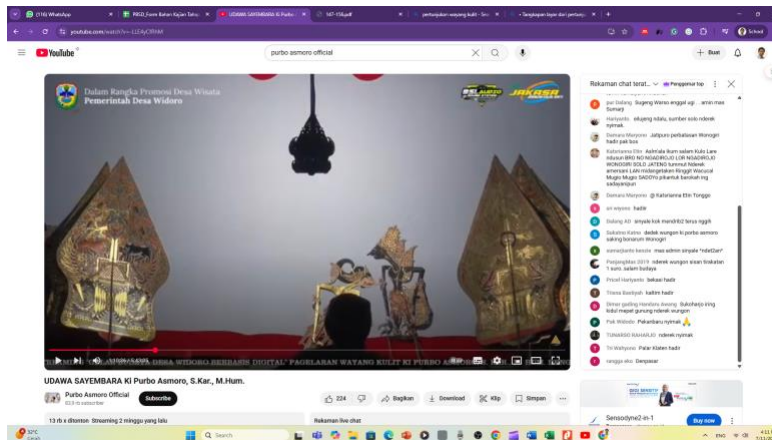


Figure 4. live chat feature in Puppet show live streaming youtube

While real-time interaction increases engagement, it also presents challenges for puppeteers. The puppeteer must be able to manage a constant stream of comments and questions without interrupting the storyline or focusing on the show. Sometimes, irrelevant or disruptive comments can appear, demanding the puppeteer to have qualified digital communication skills. This adds to the cognitive burden on the puppeteer, who already has to focus on the narrative, puppet movement, and gamelan coordination. Additionally, the nature of anonymity in cyberspace can give rise to disrespectful or offensive comments, which have the potential to ruin the sacred atmosphere of the show. Channel puppeteers and moderators are required to have the ability to filter and manage these interactions to remain positive and constructive.

3. Technological and Cultural Challenges in the Digitalization of *Wayang kulit*

3.1. Technology Access and Capacity Gap

The transformation of the aesthetics of puppetry in the digital age not only involves the adoption of new technologies, but also faces the various challenges inherent in this adaptation process. One of the fundamental challenges is the gap in access and technological capacity among traditional art masters and actors. Not all puppeteers have access to adequate live streaming equipment, such as high-quality cameras, professional microphones, LED lighting systems, or a stable internet connection. Many puppeteers still operate with limited resources, so the quality of their live streaming production may not be as competitive as that of major channels or art institutions. In addition, the technical capabilities to operate this equipment also vary. Digital literacy training and strategic collaboration are needed to maintain the presence of puppets digitally. Without adequate training, puppeteers may struggle to optimize the potential of digital platforms, thus hindering aesthetic innovation.

3.2. Loss of Immersive Atmosphere and Authenticity

The analysis shows that the loss of the physical atmosphere and immersive experience of live performances is one of the biggest challenges. Traditional *wayang kulit* performances are a multisensory experience: the smell of frankincense, the sound of gamelan resonating in open spaces, the touch of the crowd of spectators, and direct interaction with the puppeteers. This experience cannot be fully replicated on digital screens. The immersive experience of shadows and light in a traditional setting may not be fully captured on screen. While digital platforms seek to recreate some aspects of traditional audience-puppeteer interaction through live chat and commentary, there is a missing dimension in this transition. Concerns about potential threats to authenticity are also a crucial issue. Elements such as camera angles, editing, and the addition of digital graphics, while improving accessibility, can risk weakening the cultural integrity of the art form. There are concerns that too much modernization could turn puppetry into mere visual entertainment without deep philosophical meaning.

3.3. Maintaining a Balance of Innovation and Preservation

The toughest challenge is finding a balance between aesthetic innovation and the preservation of traditional values. Ethical adaptation is key, which is to respect diversity and maintain cultural integrity. The use of technology and visual innovation must be in line with the intrinsic values of *wayang kulit*, not just the addition of decorations. Perhaps a large and influential art institution can pioneer activities that show that modernization and tradition can go hand in hand. They can form a special documentation team to digitally archive puppet collections, so that cultural preservation can be carried out more broadly and in a structured manner so that technology can be used to support traditions without compromising their authenticity.

4. Implikasi terhadap Pelestarian dan Pengembangan Budaya

The digitization of puppet performances through live streaming has complex implications for cultural preservation and development. Digital platforms like YouTube have proven to be effective in preserving and expanding the reach of shadow puppets. *Wayang kulit*, as a form of traditional oral literature, can effectively convey philosophical values and ethical teachings through digital platforms (Lamirin et al., 2024). The performance on the official Purbo Asmara channel, for example, shows how narrative rich in spiritual teachings can be accessed by a global audience through live broadcasts on YouTube. This digital preservation ensures that *wayang kulit* remains a relevant and living part of Indonesia's cultural identity.

The online presence of performances also attracts a younger, tech-savvy audience. Comments and live interactions during YouTube broadcasts show a high level of audience engagement from younger viewers who may not have previously been familiar with puppetry or its philosophical teachings. It highlights the potential of digital media in revitalizing traditional art forms and making them relevant to a new generation. Studies such as the transformation of Limbuk Cangik's content on YouTube also reflect changes in audience interests and how puppet content can adapt.

- While there are opportunities, the risk of commodification also arises. When puppet is adapted to digital formats, it is possible that its cultural essence and sacred value could be eroded if the main focus shifts to mere entertainment or commercial profit. Art that was once a ritual or part of social life can become a marketed product and lose its philosophical depth. Therefore, it is important to ensure that digitalization is carried out with full awareness of the cultural context and preservation goals.

Conclusion

The conclusion may cover general findings, limitations of the study, recommendations for future research, and implications to others related to result findings/results.

The aesthetic transformation of puppet performances through live streaming on YouTube is a complex phenomenon that presents great opportunities as well as significant challenges. This research has identified several key challenges that must be faced by puppeteers, artists, and channel managers in an effort to maintain the relevance and authenticity of puppets in the digital era. First, the fundamental aesthetic challenge is to balance visual and audio innovation with the preservation of immersive atmosphere and traditional authenticity. The use of modern LED lights, advanced digital sound effects, and additional graphic elements does enhance the visual and audio appeal on digital screens, but at the same time risks taking away the mystical feel, warmth, and multisensory experience that can only be felt in a live performance. These adaptation efforts must be carefully carried out so as not to erode the cultural integrity and philosophy of *wayang kulit*, which is at the core of this performing art.

Second, limited access and technological capacity are significant practical obstacles. Not all puppeteers or traditional arts communities have adequate financial resources or technical expertise to produce high-quality live streams. This gap creates disparities in the aesthetic quality of digital performances and limits the participation of disadvantaged puppeteers in the digital arena. Therefore, investment in technology infrastructure and sustainable digital literacy training programs for artists is needed.

Third, digital interaction management is a new challenge that must be faced by puppeteers. Live chat and poll features do increase audience engagement and expand audience reach, but they also require puppeteers to be able to manage simultaneous communication, filter comments, and maintain narrative focus amid digital disruptions. It is an adaptation on a performative level that has never existed in traditional contexts.

Finally, there are deep concerns about the potential for commodification and weakening of cultural integrity. Although digitization helps preserve by documenting and expanding the reach of puppetry, there is a risk that this art will be reduced to mere entertainment content, losing its sacred meaning and philosophical depth. The adaptation strategy must be ethical, respect diversity, and maintain cultural integrity so that *wayang kulit* evolves without losing its cultural roots. Overall, the transformation of the aesthetic of puppetry in the digital age is a complex process, which requires a thoughtful and collaborative approach.

This study confirms that digitalization is not only a tool for cultural dissemination, but also a medium for adaptive and inclusive aesthetic development. For the future of *wayang kulit*, synergy is needed between art actors, cultural communities, governments,

and technology developers to ensure that aesthetic innovations can strengthen preservation without sacrificing authenticity, so that *wayang kulit* remains relevant and firmly rooted in Indonesia's cultural identity amid the current of globalization.

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