

## Illustration Design of Leang Leang Cave Tourist Attraction as an Icon in Animation Video Generative AI

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### Abstract

*This study examined the use of illustration design as an icon in generative video animation using AI generative video to improve local attractiveness. The integration of technology on local tourism aims to improve the information to attract more visitors to Leang Leang Cave in Maros as an icon in international prehistoric cave. Leang Leang Maros provides many historical rock paintings that cannot be find in any part of the world. The Karst mountains provide many unsolved mysteries related to the age of the rock paintings. Thus, this study explores the potential of promoting Leang Leang Cave using AI generative video to create animation with strong illustration design. The method of this research is a qualitative research method, using the conceptual framework and four frames by Freeman (1995). The findings of this research demonstrated that the 19 respondents agreed that illustration is an effective visual representation. Because it provides original content, historical events, engaging visual presentations, and contemporary illustrations. The conceptual framework demonstrates that historical illustrations, identity, historical heritage, and strong story telling are key factors to improve the Generative AI video animation using Illustration design. While, in the four frames, originality, local wisdom, consistency, and contemporary interpretation are the key factors to improve. These categories are a fundamental key to promote for educational content and for media communication to attract tourism from around the world. The findings bring benefits not only for the visual communication design but also cultural heritage promotion in the Artificial Intelligence era.*

**Keywords:** *Illustration, Culture, Animation, Leang Leang, Generative AI*

### INTRODUCTION

Illustration design is one of the most crucial aspects of video animation. Illustration gives a powerful information and provides picture towards audiences on video animation. Not only that, illustration design is a fundamental core of artworks (Caesaro et al., 2025). It delivers information and powerful message that align with the story telling. Once the characters of the actor is written and illustrated clearly, the information can be understood easily by the audience. So basically, the main object of animation is to provide a clear image of the main actors, and story of the video animation.

Moreover, in terms of Leang Leang cave is the oldest cave in the world. Recent research provides evidence of the existence of this cave to be one of the oldest caves in the world. This fact brings enormous benefits toward the local community, and for those who lived around the Maros region. This fact alone, can bring enormous benefits towards the education and economic development for Maros. For example, once the fact is written textbook for students to learn in schools. This can bring a desire to visit the Leang Leang cave in Maros. Not only the picture

showcases a magnificent image, but a long-standing history is a crucial information (Brumm et al., 2024; Clottes & Geneste, 2012).

Following this, the benefit of the information related to Leang Leang cave can bring a tourist attraction to visit the location. The image would provide a magnificent information. This will provide visitors to explore the cave. Rock painting is one of the most magnificent images as it illustrated the prehistoric events and story related to the human development overtime (Haedar et al., 2024). The image provides information of hunters and ceremonial event related to losing families, and another story is related to hunting animals. Which is a very informative for prehistoric events. From the image alone, it can provide information that people within the Maros region used to hunting as their method of life.

From the information drawn from the rock, it is believed that it will bring enormous benefit to attract tourism from around the world. But it must be understood that the news and information written in journal alone, would not be enough. There must be a method to provide more clear information related to the prehistoric cave. So, we agreed that using video animation will bring more information and would attract more tourist (Ulfah et al., 2025). The video animation provides more detail and life experience related to the prehistoric cave in Leang leang Maros. The image provides detailed information and aesthetically engaging (Kleftodimos, 2024; Ritonga et al., 2020).

Furthermore, in recent times the use of AI generative image as a source of information is highly effective. Once the prompt and the video generated successfully, it will attract more tourism to visit Leang Leang cave. There are many reasons why AI generated video would provide more benefits. One obvious reason is that it provides video transitions more effectively, based on the story written (Lee et al., 2024). And it can be done relatively quickly rather than the traditional method of promotion (Deng, 2026; Tremblay-Gagnon et al., 2026). To spend less time, means to produce more videos to attract more algorithms towards the Leang Leang cave. This might be sound differently, but this research believes that the need to try on different approaches to promote.

Therefore, this research aims to explore the key factors of illustration design that represents an icon in video animation using Generative AI. Thus, understanding the concept using the conceptual framework and the four frames to analyze in more detail and critical perspective is crucial, based on the visitors and common belief of society in general.

## METHOD

This research employs a qualitative methodology, specifically utilizing the conceptual framework namely artist, artwork, world and audience developed by Freeman (1995). Which later developed by using the four frames namely subjectivity, cultural, structural and postmodern to improve understanding on artwork. This approach is fundamental for visual arts education. This method has been practiced in many schools and proved to be effective. In New South Wales, it becomes the core curriculum that developed students understanding. Not only that, but this method also has a specific role to improve students understanding of critical thinking skills. This is highly important for students at their age. Moreover, the research was conducted in South Sulawesi involving 19 respondents from various background. Many of them have been visited Leang Leang Cave in Maros, and many of them are lived in Maros. The respondents were chosen based on their background and their prior experience related to the cave painting of Leang Leang Maros. It is believed that the respondents have prior knowledge of Leang Leang Maros.

The data analysis of this research using the conceptual framework and the four frames. The analysis began by organizing all responses from 19 participants into textual data derived from

google form, which later interpreted in excel document. After that, the data were identified words by words to identify recurring ideas expressed by the participants. In the conceptual framework the four dimensions are artist, artwork, audience, and the world. These dimensions are used to understand how the participants make meaning of their perceptions towards artworks or videos. Following this, the four frames are added to understand deeper knowledge of participants interpretation. Using subjective, structural, cultural, and postmodern frames. Finally, the pattern across all words identified the relationship between respondents. The interpretation later used to synthesize into comprehensive findings as illustrated in the result section using the conceptual framework and four frames illustrations. The findings are systematically interpreted while maintaining consistency with the theoretical framework.

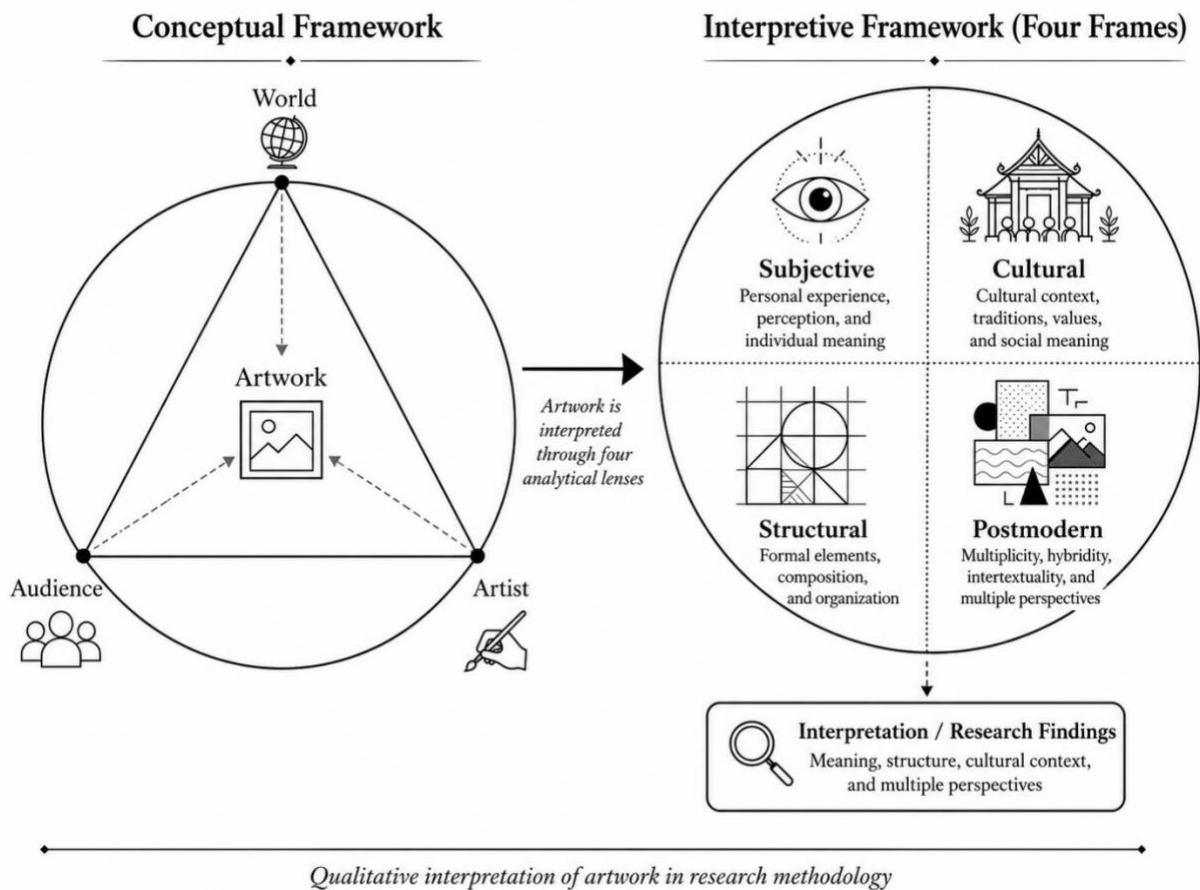


Figure 1. Conceptual Framework and the four frames in visual arts

## FINDINGS AND DISCUSSION

### Findings

This study utilizes a qualitative methodology using the conceptual framework and the four frames. Examining survey data from 19 respondents. The conceptual framework analyses from the artwork, artist, world, and audience. To improve the understanding of the knowledge of the respondents, we added four frames to improve critical analyses using subjective, cultural, structural, and postmodern frames. The result provided more detailed understanding of elements which are examined, illustrating more detailed dimensions of meaning and respondents interpretation of the illustration design on AI generative videos.

## 1. The Conceptual Framework Results

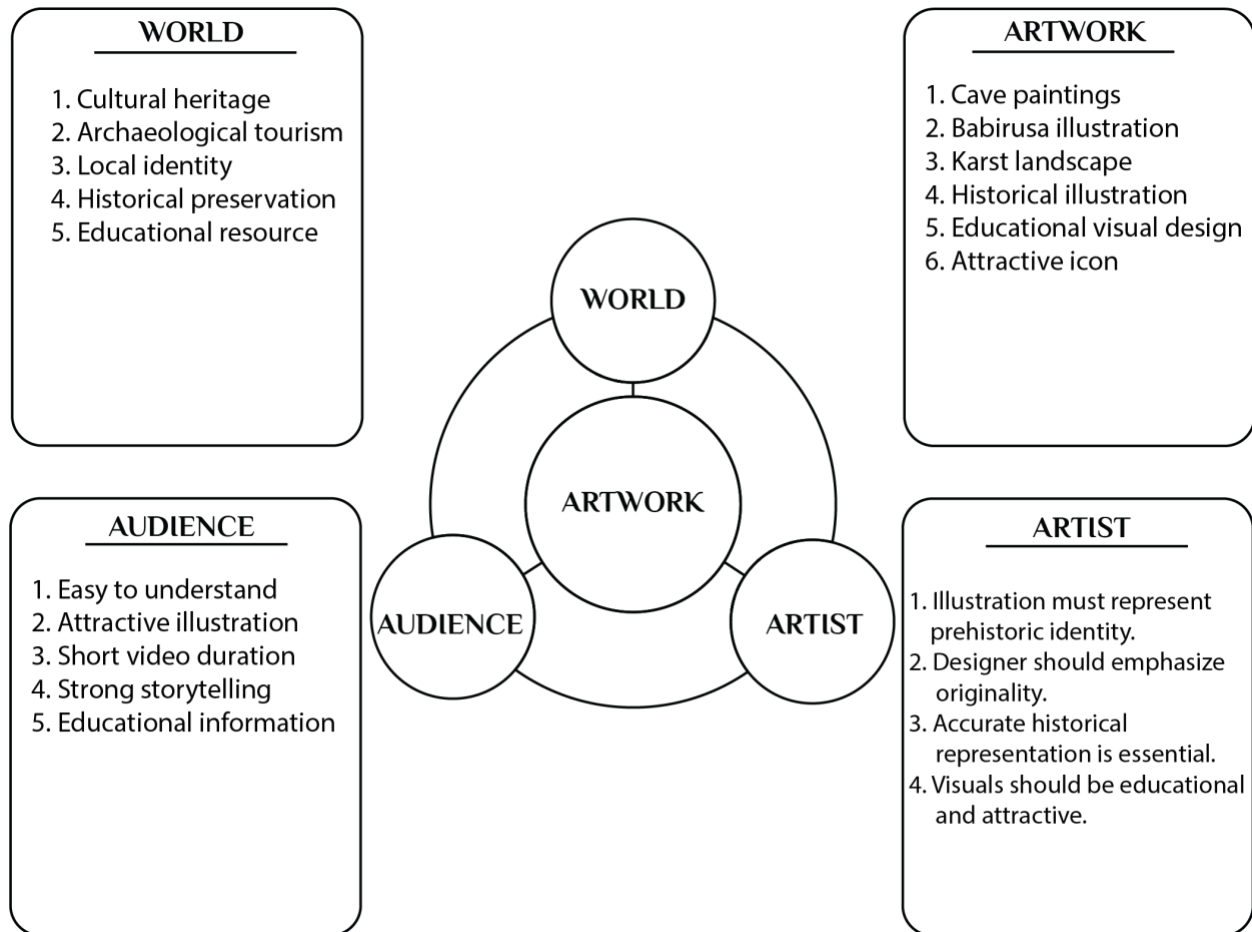


Figure 2. The conceptual framework results

The given picture illustrates four categories of respondents' interpretation of Video animation created using an icon of illustration design using Generative Videos Artificial Intelligence. It is shown that the audience have clear preferences on how to pictures illustration design within the video animation. First and foremost, on artist respondents tend to categorize four points namely: representation of prehistoric identity, originality, accuracy, and educational content. Second, artwork should represent six categories namely, cave paintings, animal illustration, karts landscape, historical event, educational content, and icon. Following this, respondents later added that in world dimension five categories should be included namely cultural heritage, archeological tourism, local identity, historical event, and educational content. Finally, audience dimensions should include easy information, attractive information, short video, strong storytelling, and educational content. It is clear that the four dimensions represent the need to include educational content on each item.

## 2. The Four Frames Results

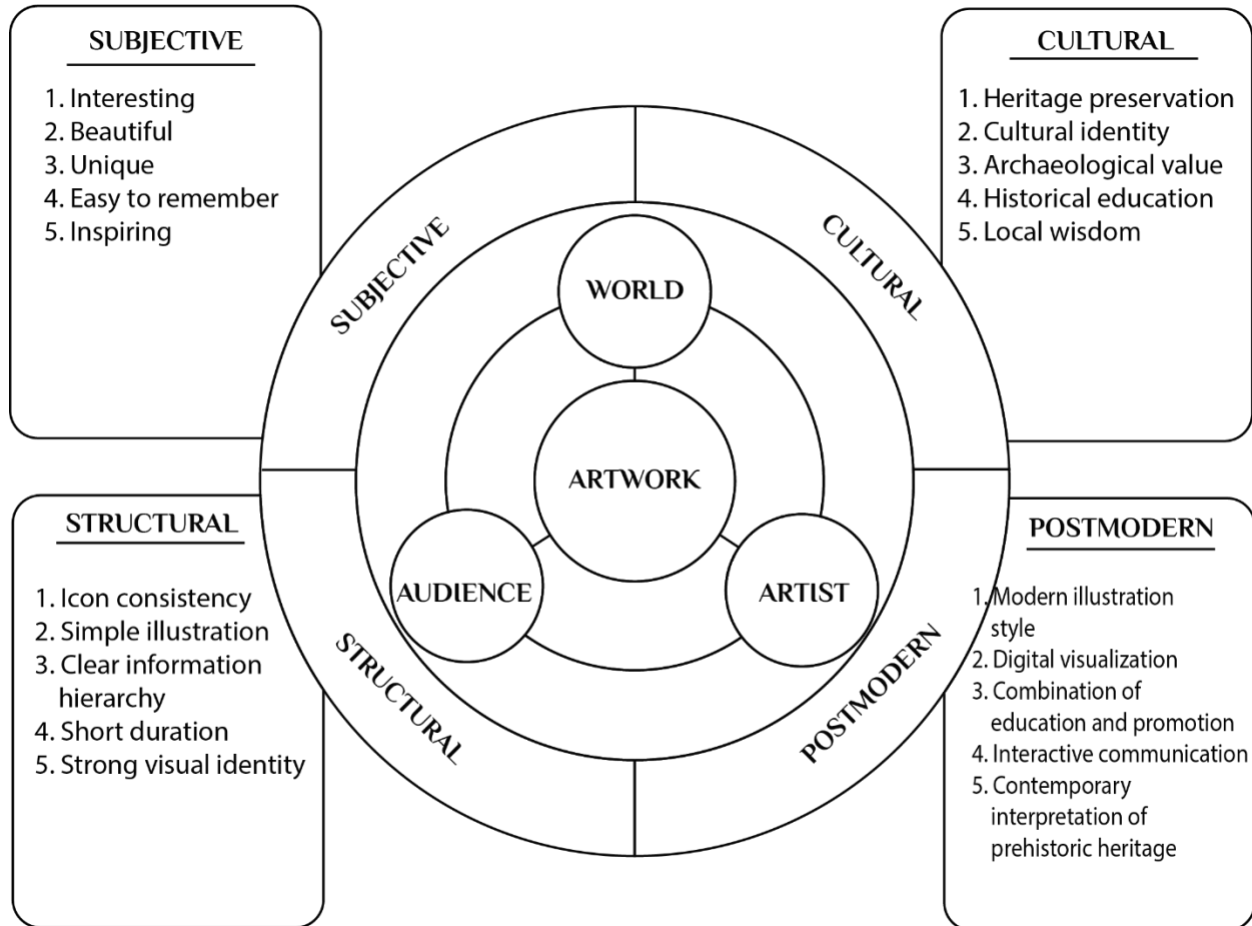


Figure 3. The Four Frames Results

The Four Frames Results shows that subjective frame interpretation from the nine teen respondents that they respond positively to illustrate that shows curiosity, pride, beauty, and appreciation for the cave painting in Leang Leang Maros. Moreover, the cultural frame shows that all respondents considered prehistoric illustration as a crucial representation of Indonesian heritage. Symbols and cave painting are both a visual identity of Indonesia, and it must be preserved. Next, on Structural frame the respondents emphasized the importance of promotional videos using an icon illustration, and powerful storytelling to promote to improve communication. Finally, Postmodern frame illustrates that modern visual communication can improve the engagement of visitors without removing the originality of the historical Leang Leang cave paintings.

## Discussion

### 1. Visual Commutation within the Illustration Design



Figure 4. Illustration Design of Leang Leang Cave in Maros

Illustration Design is a key for creating a powerful videos content, even using Generative Artificial Intelligence. Once prompt is written, the ideas behind it must relevant and related to ideas, so that it generates more clear information based on what the creators intended (Lee et al., 2024). In terms of design, illustration brings huge impact towards results (Caesaro et al., 2025; Wang et al., 2022). It can provide clear information and brings the story to life. Visual is a powerful tool to promote cultural heritage and to remind the visitors of tourism places.

### 2. Authenticity of Leang Leang Rock Paintings



Figure 5. Original Design of Rock Paintings

One of the reasons why the Rock Paintings in Leang Leang Maros is original is the location of the site is located in Karst Region. Originally there were so many Rock Paintings that spread

between Maros and Pangkep Region. Between the Karst mountains found so many rock paintings years after years. It seems that there are many unveil rock paintings that can be found. The location itself is predicted to be one of the oldest and largest Karst mountain in the world (Haedar et al., 2024; Mulyadi, 2012).

### 3. Audience Engagement of Visual Storytelling and Vivid Transitions



Figure 6. Video Transitions using Generative AI

Creating Video Animations using Generative AI is challenging, but to overcome the challenges, the use of illustration icon and background will help generate image that relates to the user needs. For example, in this picture the illustration shows clear information that engages the audiences with strong storytelling. Once the information that related to images and prompt, the results can be engaging (Shafik, 2025).

### 4. Illustration as a Bridge for Tourism and Education



Figure 7. Illustration as a Bridge for educational and Tourism information

In terms of illustration design, the bridge between educational content and tourism information can be align with the AI generative videos (Berg et al., 2024; Deng & Li, 2025; Tak et al., 2025). for example, in these illustrations two images shows activities surrounding the Karst Mountain, and next to it found an activity of Indonesian market that sell product related to Rock paintings. This can bring two benefits at a same time. Creating more opportunities for people around the Karst Mountain in Leang Leang Maros.

## 5. Structural Information



Figure 8. Structural Information within the Rock Paintings

In terms of structural information, the generative AI videos often make mistakes, because the language of AI cannot support the structural information. AI relies merely on the given information, often in structural information, there are meanings that cannot change within the picture. So, it is fundamentally important to make sure that the structural information can be clearly addressed (Makawi et al., 2025).

## 6. Contemporary Illustration of Prehistoric Heritage of Leang Leang Cave



Figure 9. Contemporary Illustration

Contemporary images often bring different challenges. In many artistic approaches, contemporary ideas bring different level of difficulty because the nature of understanding among experts in contemporary world can be different one from another. For example, having a realistic paintings or illustrations cannot be compared to flat arts with colorful images. This example alone can be discussed over and over again. Creating more confusing conceptual ideas among artistic practitioners. Therefore, to fully understand the ideas, the context of place brings enormous impact towards perception. Thus, to relates an image of contemporary ideas, location or places will brings a huge impact and influenced the thinkers to suit the perception (Barrett, 2012; Jamal Rashid et al., 2024; Yujuan et al., 2024).

## CONCLUSION

The use of illustration design using as an icon in generating AI video is an effective method. Utilizing the Conceptual framework and the four frames this research analyses 19 respondents and it reveals that the framework enhances the quality of Video Generative using AI, and improve the performance of information towards improving tourism attractions. This research is a successful

based on the research findings and results on improving the perception of tourism. Using recent developments of AI to generate AI videos animation. The key ideas is to combine the use of technology and illustration design that improves the quality of Videos animation to promote tourism places such as Leang Leang Rock Painting in Maros. Hence the results from the respondents indicated that the originality, educational contents, transitions effects, and aesthetic images will improve the quality of videos generated AI. Future research may explore the benefits of digital technology with more advanced AI video generated.

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