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Exploring The Usage of Motion Graphic Elements in Projection Mapping Video to Promote Agrotourism in Malaysia

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ABSTRACT

Agrotourism is a rapidly growing industry in the country that tries to attract tourists by showcasing agricultural practices, rural life, and biodiversity. The cutting-edge technology known as projection mapping provides a dynamic platform for the telling of stories and the creation of immersive experiences. The purpose of this study is to explore the use of motion graphic elements in projection mapping videos to promote Agrotourism in Malaysia. By selecting and analyzing 10 videos of projection mapping related to tourism, the research aimed to discover the effectiveness of motion graphic elements in enhancing the promotional impact of agrotourism destinations. The research finding revealed that the usage of motion graphic elements such as vibrant color with pleasing design and sound design plays a pivotal role in captivating viewers' attention. The investigation of motion graphic elements in projection mapping videos for Malaysian agrotourism promotion provides insightful information about the visual and audio elements that are involved in creating an appealing narrative. By understanding and implementing these findings, organization in the agrotourism industry can enhance their promotional efforts, creating more immersive and captivating experiences for tourists.

Keywords: *Motion graphic element, Projection Mapping, Agrotourism*

1 INTRODUCTION

Agrotourism is an expanding tourism concept in Malaysia, where visitors can engage in a variety of activities related to the agricultural sector. Agrotourism refers to rural tourism that incorporates agricultural features for educational purposes, leisure and involvement in conventional management practices. Its primary attribute is the engagement of visitors in farming activity (agricultural productivity) (Baranova, 2019).

Motion graphic elements are increasingly being used to enhance visual storytelling and attract audiences (Khairulah, 2023) and they can be included in projection mapping videos. A motion graphic is an image that has been progressively modified to look like a moving animation (Hapsari, 2019). Motion graphics elements, including animated visuals, typography, and special effects, can add dynamic and visually appealing content to projection mapping videos.

One of the latest techniques for projecting images onto surfaces is called "video mapping," which allows users to create dynamic video displays on practically any surface. Video mapping, also known

as projection mapping, combines audio-visual components to produce the physical illusion of visuals (Yoo, 2014). On the other hand, projection mapping involves projecting visuals onto irregular objects or surfaces, creating a unique and interactive experience for viewers. By combining these elements, designers can create visually stunning and engaging experiences for visitors to agrotourism destinations.

2 LITERATURE REVIEW

2.1 Motion Graphic Elements

Motion graphic elements are widely used in various industries, including agriculture, to enhance visual communication and user experience. Motion graphic elements refer to visual elements that are designed to move or change over time in a digital medium. According to (Shir, 2014) the famous animator John Witney used the term "motion graphics" for the first time in 1960. The first person to successfully use motion graphics in his works was Saul Bass. Motion graphics or moving graphics are created by video or animation technology and by making a hallucination of movement or changing the appearance of visual factors (Shir, 2014). Motion graphics, comprising animated elements, typography, and visual effects, add dynamism and visual interest to projection mapping videos.

According to Smith (2018), motion graphics are essential for conveying emotions, increasing the overall story, and providing viewers with a visually engaging experience. These elements work as dynamic visual aids that are capable of clearly conveying complicated information regarding farming activities, sustainable practices, and agricultural processes. These elements, which include animated infographics and videos, can help visitors understand complicated concepts more easily and be more interested in what they are viewing. Motion graphics, according to a study by Barnes (2019), are dynamic visual communication tools that can be used to convey information in an engaging, interesting, and effective way. With the presence of motion graphics, agrotourism industries may tell powerful narratives to promote their special offers while creating a stronger bond between visitors and the agricultural environment by using motion graphics to convey storytelling.

2.2 Two-Dimensional (2D) Elements

The use of two-dimensional objects in motion graphics, such as forms, lines, and text, is referred to as 2D elements. Colour, typography, and composition all contribute to the aesthetic appeal of motion graphics, which is why they are necessary for producing visually captivating and captivating images. In motion graphics, 2D elements focus on combining the usual graphic design principles with audio and animation. Creating and enhancing 2D elements for motion graphics is essential to the development of 2D motion graphics creation and rendering, which improves animation technology and its uses. According to Wahyudi & Kusuma (2021), people are typically more engaged in the utilization of two- dimensional elements, particularly when information is being conveyed. Overall, 2D elements are an essential aspect of motion graphics, contributing to their visual appeal and effectiveness in conveying information.

2.3 Three-Dimensional (3D) Elements

3D elements enhance the visual appeal and immersive experience of artwork. According to RedAlkemi (2023), adding 3D elements to designs enhances their visual impact and helps create a unique style. By using 3D modelling software, objects, typography, or entire scenes can be enhanced with realistic textures, lighting effects, and shadow effects. Viewers will be drawn in and the designs will be more interesting as a result.

2.4 Projection Mapping Technique

Projection mapping has become increasingly popular as a form of visual expression (Murayama, 2014). It is a projection technique that is used in interactive or video installations to adapt to the shapes of irregularly shaped objects (Katkeviča, 2022). This technology is widely used in a variety of industries, such as architecture, design, and entertainment. This technique allows real-time input to create interactive environments that can immediately respond to changes. The content employed in projection mapping depends on the project's purpose, venue, and creative vision, and the system's ability to adapt to real-time input allows it to create dynamic and interactive environments (T Nishanka, 2021).

In the realm of visual arts, projection mapping allows artists to create immersive, dynamic installations. According to Katkeviča (2022), projection mapping is essential for a strong story, a successful marketing plan, and comprehensive entertainment. In recent years, it has proven to be a powerful urban art technique in which public buildings and icons are used as canvasses. Additionally, by using the right technology and professional skills, it is possible to create an unforgettable environmental performance. Pioneers such as Krzysztof Wodiczko paved the way for projecting onto architectural structures, challenging conventional notions of static art. The technological procedures of projection mapping have progressed with the introduction of high-resolution projectors, advanced mapping software, and real-time content rendering, facilitating intricate and seamless visual experiences.

The use of projection mapping will enhance the visual appeal and impact of the show, creating realistic and fantastical scenes, atmospheres, and effects that would be impossible or impractical with traditional scenery, lighting, or props. Additionally, projection mapping can be used to add versatility and flexibility to stage design, allowing for quick changes between scenes, locations, or moods without requiring physical changes. It encourages creativity and experimentation by enabling designers, directors, and performers to explore different possibilities of projection and performance.

2.5 Agrotourism Industry in Malaysia

Agrotourism in Malaysia is a tourism concept that maximizes the use of farm settings and environments, with hospitality in promoting tourism activities. Agrotourism refers to tourism in agricultural areas like orchards, agroforestry farms, herbal farms, and animal farms. Agrotourism is defined by the National Agro-Food Policy 2011-2020 as a leisure activity that combines agricultural practices with tourism and multiplies incomes of agricultural communities and the country's GDP (Mansor, 2015). According to Mansor (2015), agrotourism is also known as farm-based tourism. Through a collaboration between tourism and agriculture, visitors can engage in agricultural-related activities while relaxing and spending time and money for joy and happiness.

Agrotourism in Malaysia has emerged as a significant and growing industry, offering a unique blend of agricultural experiences, local customs, and traditions. The country's rich agricultural heritage, coupled with the appeal of its rural communities, has contributed to the increasing interest in agrotourism among both domestic and international tourists. Mansor (2015) states that agrotourism in Malaysia encompasses both agricultural activities and cultural and traditional aspects of different regions, presenting vast potential for future development. This industry has been identified to revitalize rural economies, particularly in areas where agriculture has traditionally played a dominant role.

Agrotourism has also been recognized as a tool for rural economic progress, offering farmers and rural communities a way to diversify their incomes. Research by (Annamalah et al., 2016) has highlighted the potential of farm-based tourism to generate income, particularly for rural areas through farm-based tourism activities. As Malaysia's economy has transitioned from a heavy reliance on agriculture to a more industrialized base, agrotourism presents a promising avenue for sustaining and promoting agricultural activities, while also providing unique and authentic experiences for tourists. The industry's ability to attract a younger demographic of tourists also highlights its potential for growth and sustainability (Mansor, 2015).

2.6 Visual Communication to Enhance Tourist Engagement

Visual communication plays a pivotal role in enhancing tourist engagement, particularly in the context of promoting agrotourism in Malaysia through the usage of motion graphic elements in projection mapping videos. Motion graphic design is one of the powerful elements that are frequently needed for effective informative communication. According to Shir, 2014 the use of graphics, photos, and the variety of images that make up each motion graphic can enhance its visual quality and raise audience attraction. Motion graphics can improve the entire viewing experience. Wang et al. (2020) examine how these features influence viewers' attention spans and emotional responses. Social media is also a powerful tool for promoting tourism. Creating engaging content with impressive videos is the most crucial step to attract more visitors to agrotourism destinations.

3 RESEARCH AND METHODOLOGY

This study employed a qualitative method. The research design for this study employed content analysis to analyse the usage of motion graphic elements in projection mapping video. As stated by (Krippendorff, 2013), content analysis is a research method for getting reliable conclusions about texts or other significant material and the contexts in which they are found. A sample of 10 videos of projection mapping in Malaysia and international videos related to tourism was selected for data analysis. The videos were selected based on projection mapping videos that contain content of 2D and 3D elements. The purpose of this research is to explore the effectiveness of motion graphic elements to promote agrotourism in Malaysia which will improve the advertising materials utilised in agrotourism strategies.

3.1 Research Flow and Design Methodology

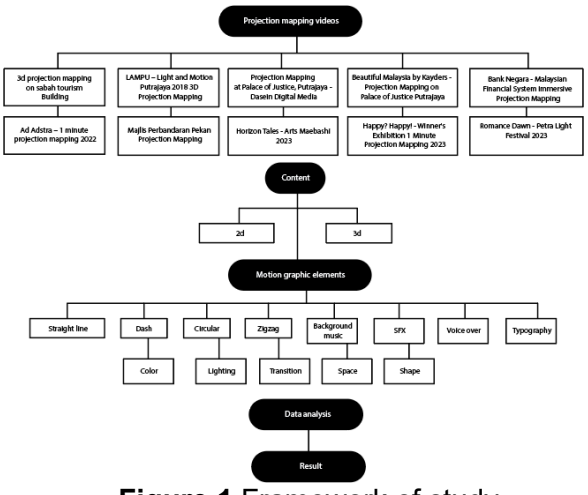


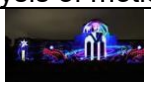
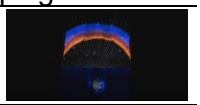
Figure 1 Framework of study

3.2 Data Analysis

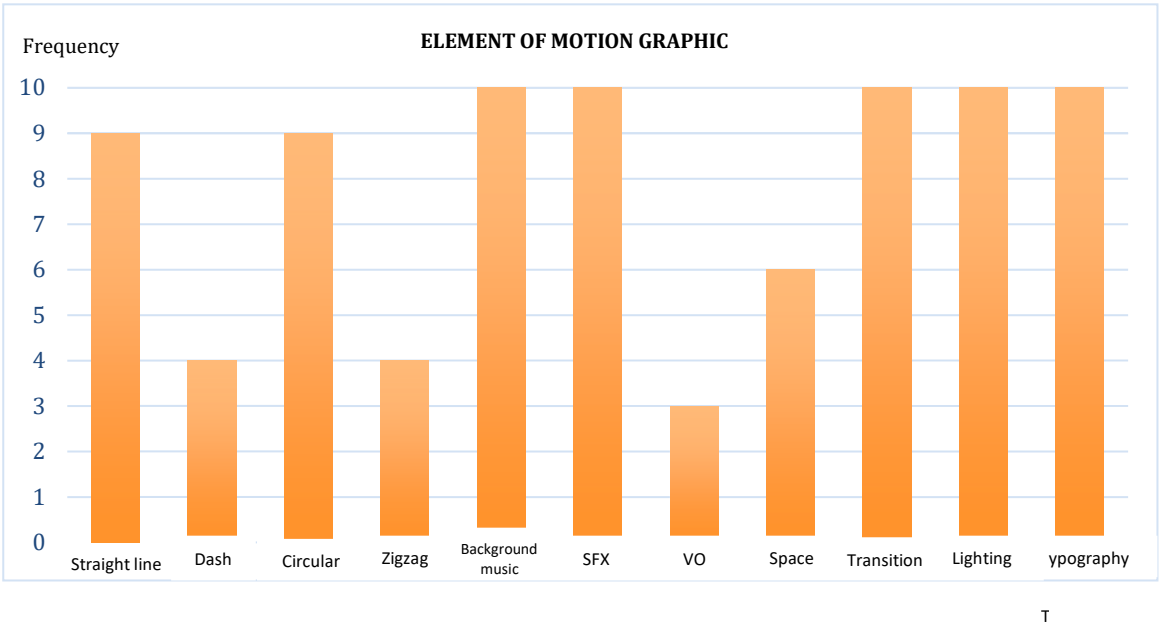
Table 1 Content analysis of motion graphic elements in projection mapping video

Video						
Details		3d projection mapping on Sabah tourism Building	LAMPU – Light and Motion Putrajaya 2018 3D Projection Mapping	Projection Mapping at Palace of Justice, Putrajaya - Dasein Digital Media	Beautiful Malaysia by Kayders- Projection Mapping on Palace of Justice Putrajaya	Bank Negara - Malaysian Financial System Immersive Projection Mapping
Number of videos		1	2	3	4	5
Years of production		2018	2018	2019	2020	2020
Duration (mins)		7:15	4:27	3:26	5:09	1:36
Content	2D	/	/	/	/	/
	3D	/	/	/	/	/
Elements of motion	Straight line	/	/	/	/	/
	Dash					
	Circular	/		/	/	/
	Zigzag		/	/		/
	Background music	/	/	/	/	/
	SFX	/	/	/	/	/
	Voice over				/	/
	Typography	/	/	/	/	/
	Colour	Bright colour	Bright and vibrant colour	Bright colour	Bright and vibrant colour	Bright colour
	Lighting	/	/	/	/	/
	Transition	/	/	/	/	/
	Space	/	/	/	/	/
	Shape	Geometry	Geometry Abstract	Geometry Abstract	Geometry Abstract	Geometry Organic

Table 2 Content analysis of motion graphic elements in projection mapping video

		Video				
						
	Details	AD ASTRA – 1 MINUTE PROJECTION MAPPING 2022	Majlis Perbandara n Pekan Projection Mapping	HORIZON TALES - ARTS MAEBASHI 2023	Happy? Happy! - Winner's Exhibition 1 Minute Projection Mapping 2023	Romance Dawn - Petra Light Festival 2023
	Number of videos	6	7	8	9	10
	Years of production	2022	2023	2023	2023	2023
	Duration (mins)	4:00	8:45	4:00	2:47	3:55
Content	2D	/	/	/	/	/
	3D		/			
Elements of motion	Straight line	/	/	/	/	
	Dash	/		/	/	/
	Circular	/	/	/	/	/
	Zigzag				/	
	Background music	/	/	/	/	/
	SFX	/	/	/	/	/
	Voice over		/			
	Typography		/			
	Colour	Bright and vibrant colour	Bright colour	Bright and vibrant colour	Bright and vibrant colour	Bright and vibrant colour
	Lighting	/	/	/	/	/
	Transition	/	/	/	/	/
	Space	/	/	/	/	/
	Shape	Geometry	Geometry Organic Abstract	Geometry Organic Abstract	Geometry Abstract	Geometry Abstract

4 FINDING



4.1 Discussion

The finding of the research explored the usage of motion graphic elements in projection mapping video to promote agrotourism in Malaysia. The results indicate that this projection mapping video primarily uses two-dimensional content. Two types of motion graphic elements that are frequently employed in lines are 9% of circular and 9% of straight lines. The chart shows the minimal usage of voice over, which is only 3%. This is since voice over usage is not recommended since viewers will find themselves more interested in the displayed graphics and animations than in hearing spoken information. The efficiency of projection mapping videos can also be affected by the colours that are utilized in them. For instance, viewers are probably going to find bright, cheery colours more appealing than dark, muted colours. The sound design of projection mapping videos is also important. The sound design that is used should be appropriate for the tone of the video and striking a delicate balance between not being overly loud or causing distractions. The duration of projection mapping videos should also be considered because effective projection mapping videos are often designed to capture attention quickly and convey a message or evoke emotions within a concise timeframe. Videos that are too short may not be effective in conveying their message, while videos that are too long may losing the viewer's attention.

5 CONCLUSION

In conclusion, the findings highlight on the utilization of motion graphic elements in projection mapping videos to promote agrotourism in Malaysia. The predominant use of 2D elements in these videos indicates a current pattern in the industry, possibly influenced by their ease of use and straightforwardness. The common use of straight lines and circular motion graphic elements shows a preference for visually understandable and visually pleasing designs. Furthermore, the impact of colour such as red, blue, yellow and green in projection mapping videos is highlighted, emphasizing the importance of choosing vibrant and cheerful colours to enhance viewer appeal. Additionally, the research emphasizes the significance of sound design, emphasizing the need for background music and sound effects that align with the video's tone without being overly distracted. Considering duration of projection mapping videos is also important because to ensure that they strike a balance between conveying the intended message and maintaining viewer engagement.

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AUTHOR CONTRIBUTIONS

All the authors have contributed to the paper meticulously.

CONFLICT OF INTEREST

There is no conflict of interests.

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