

# Assessing 360-Degree Guided Virtual Tour Video as a Viable Tourism Destination Marketing Tool: An Affective Appraisal Theory Approach

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## ABSTRACT

Due to the intense competition, tourism destinations confront greater challenges with marketing, branding, and positioning. Although virtual tours are increasingly viewed as a potential innovative marketing tool to attract tourists worldwide, empirical research in this area is rather limited. The study examines consumers' affective appraisals of 360-degree video virtual tours of tourism destinations. A qualitative content analysis was employed in which YouTube's 360-degree guided virtual tour video with 90 comments of 1,087 total words was analyzed. Using the Voyant Tool software, the study found that viewers generally have a positive sentiment toward the 360-degree guided virtual video tourism destination. This positive sentiment indicates the potential success of 360-degree video-guided virtual tourism destinations in providing a satisfying and immersive experience for the audience. Practically, the study offers valuable insights for destination marketing organizations to leverage on a 360-degree guided virtual tour video. Theoretically, the study contributes to the virtual tourism literature by extending the application of affective appraisal theory to the destination marketing domain. Further empirical work is suggested to validate and support the current study's findings.

**Keywords:** 360-degree video, Guided tour, Virtual tourism, Destination marketing

## INTRODUCTION

In the digital marketing era, it is evident that virtual reality technologies are increasingly being used to promote tourism destinations (Oncioiu & Priescu, 2022). Research shows that virtual reality, particularly head-mounted virtual reality, enhances presence and positively influences the destination image (Adachi et al., 2020). Additionally, virtual reality makes the mental imagery more detailed, and the person feels more present during the experience, raising the destination experience. The tendency of travel being associated with an exploration of new environment and novel experiences suggests the viability of virtual reality in promoting individuals visit to tourism destinations (Martins et al., 2017). The role of virtual reality as a means of destination marketing is drawing increasing supports as an effective way of facilitating big scale virtual visits to tourist destinations (Li and Chen, 2019). However, the advancement of digital technologies brings many difficulties that require great attention from destination marketers (Scott et al., 2017).

In the light of growing competition, tourism destinations face more difficulties in promotion, branding, and positioning, because it is hard to prevail over the stronger opponents while using traditional strategies

(Fyall, 2018). The growing competitive forces and global attraction of the market have promoted the extensive exploitation of virtual reality in the tourism sector (Moorhouse, 2019). Particularly, Wu and Lai (2021) emphasized the widespread use of virtual reality technologies like 360-degree videos in improving the image of a destination and making it different from competitors. The use of 360 video guided virtual tours in destination marketing can have a favorable effect on the attitudes and behavioral intentions of consumers (Rahimizhian, 2020). These tours have been successful to invoke curiosity, promote involvement and stimulate reflection, particularly of sites that are relatively unknown or unattainable (Petousi et al., 2023). The power of virtual reality videos is that they can generate the feeling of presence, shape the image of the destination, and affect the viewers' emotions towards the presented destination (Wu & Lai, 2021). Since this technology is still in its infancy, empirical research on its impact on growing countries in Southeast Asia such as Malaysia is still relatively lacking (Adnan, 2022; Osman, 2022).

Several recent research studies have highlighted the importance of human psychology in understanding the influence of 360-degree videos (for example, Kelling et al., 2017; Austin Azofra et al., 2021; Oh et al., 2021). However, limited studies show how viewers' emotional reactions are influenced during a guided virtual tour in a 360-degree setting. Individuals' emotional assessment plays a role in cognition and is vital in various theories related to thinking and emotions (Musch & Klauer 2003). According to a literature review conducted by White et al. (2017), emotional evaluations can be automatically triggered by stimuli such as 360-degree videos without requiring cognitive processing to understand the stimulus characteristics. Compared to 2D video ads, 360-degree video promotions are more likely to evoke stronger positive emotions (Ausin Azofra et al., 2021). Since emotions can influence behavior and decision-making processes (Van der Pligt et al. 1997), assessing individuals' emotional responses to 360-degree videos is crucial.

Despite the efforts of numerous studies to comprehend digital marketing innovations, a deeper understanding and theory-based research addressing the user's affective experience in a 360-degree guided virtual tour video context are needed. Thus, this study aims to explore the underlying mechanisms by which the affective appraisal of 360-degree guided-virtual tour videos is formed. To achieve the research purpose, the study conducts a qualitative content analysis that analyzes comments on YouTube's 360-degree guided virtual tour video. The significance of the study is twofold. Theoretically, this study contributes to the existing body of knowledge on digital marketing innovations, explicitly focusing on the underexplored realm of user affective experience within the context of 360-degree guided virtual tour videos. On a practical level, destination marketers can leverage this knowledge to tailor their strategies, enhancing the effectiveness of 360-degree guided-virtual tour videos for diverse audiences.

## LITERATURE REVIEW

### Evolution of Virtual Tourism

The tourism industry is opening to opportunities and ways of using technology due to advancements in the field (Beck et al., 2019). According to Pešteek and Sarvan (2020), integrating technology could greatly influence how visitor needs and experiences are catered to from a consumer perspective. Destination marketers are embracing technologies for reasons, the primary motivations being the appeal of the global market and competitive pressures (Moorhouse, 2019). Pešteek and Sarvan (2020) highlighted that virtual technology offers potential for use in tourism for planning, travel management well, and technology-driven marketing of destinations. Virtual reality stands out as a tool for promoting travel (Adachi et al., 2020) capable of reaching an audience worldwide (Chirisa, 2020). Through virtual reality applications, destination marketers can craft an image for tourist spots, which can be shared consistently with people beyond those locations (Oncioiu & Priescu 2022).

Most studies so far have investigated virtual reality as a marketing tool for communication and promotion

during the pre-travel stage, with a particular focus on behavioural facets (Beck et al., 2019). According to Bogičević et al. (2019), virtual reality is highly important in “daydreaming” about an ideal accommodation before being physically present at the destination. It evokes more powerful mental pictures about the destination and makes it more present, which lead to more enjoyable travel. An et al. (2021) further elaborated that virtual reality travel has several aspects, including temporal distortion, telepresence, and concentrated attention, and improves visitors’ sensation of flow. Lin et al. (2020) stated that VR stimulates the intentions of slow travellers by encouraging observational travel, arousing nostalgia, and fostering slower, more immersive tourism experiences. 360-degree videos, one of the newest VR technologies, are an effective marketing tool that can positively affect consumer perceptions and behavioural intentions toward a travel location (Rahimizhian et al., 2020).

### **Role of 360-degree Video Guided Virtual Tour in Destination Marketing**

Nassani et al. (2021) referred to 360-degree video-guided virtual tours as immersive media that substitutes for location-based experiences but enables users to be guided through a location via a narrator and view it remotely. It is interactive storytelling based on experiential media that gives a tourist a different way to access a tourism destination and an alternative form of enjoying the tour (Argyriou et al., 2020). 360-degree videos offer viewers an interactive and immersive experience by presenting spherical representations that provide a realistic panoramic view of environments. Numerous studies point to the subjective tendency of 360-degree videos to be employed in destination marketing. According to Spielmann and Orth (2021), virtual tours with 360-degree views can raise intention, lowering implied understanding, increasing authority, and increasing the likelihood of experience. Virtual reality in tourism has the prospect of inducing a feeling of presence, forming the destination image, and influencing viewers perceptions of the destination (Wu et al., 2021). The introduction of 360-degree virtual tour video techniques such as route tapestries can improve users’ navigation and decrease visual disorientation (Li et al., 21). With the advancement of 360-degree video, virtual reality consumption is rapidly becoming mainstream in tourism marketing campaigns (Rahimizhian et al., 2020).

### **YouTube and 360-degree Video User-Generated Content**

The digital marketing evolution is having a considerable effect on the tourism industry. Social media channels, especially the YouTube platform, are taking a central role in destination marketing (Tiago et al. 2019). YouTube, with over 2.7 billion users, demonstrates its power as one of the main channels for travel and tourism marketing (Shewale, 2023; Sambhanthan et al., 2020). The uniqueness of the platform in gathering communities becomes a foundation as the mixed content from professionals, users, and influencers collectively brings images and definitions to destinations (Tiago et al., 2019). YouTube 360-degree videos play an instrumental role in shaping consumer opinions and attitudes towards destinations, which in turn drive their intention to visit (Prasetyo & Hati, 2022). These impacts are much more severe when working alongside extrinsic motivators that enhance this pleasure and intention to visit (Rahimizhian et al., 2020). Feng et al. (2019) stressed that the traditional ad format of 360-degree video works best with a narrative approach. They emphasize the role of stories in such ads in preventing information overload and shaping the way viewers perceive the ad and the brand, reminding everyone of the power of precious stories in the world of advertising.

A growing number of countries have embarked on using 360-degree video to promote their destinations. Serkal (2017) reported that Dubai Tourism created a series of immersive 360-degree videos that allowed viewers to experience the city’s iconic landmarks, such as the Burj Khalifa, the Burj Al Arab, and Dubai’s coastline. The videos were widely shared online and helped to generate interest in Dubai as a travel destination. In India, Kerala Tourism (2023) developed a website that featured 360-degree video tours of different regions and landmarks in the south Indian state, which includes Ranipuram hills, Kozhikode beach,

and Ezharakund waterfalls. The 360-degree virtual tours are accessible via smartphones, desktops, and head-mounted devices, which allow viewers to experience the destination's natural beauty and cultural heritage. In Southeast Asia, Tourism Malaysia (2023) is starting to recognize 360-degree video as a powerful marketing tool. They collaborated with Insta360 to showcase Langkawi's natural beauty and cultural heritage through immersive 360-degree videos to attract more visitors and boost the tourism economy.

### **Affective Appraisal Theory as the Underpinning Theory**

The Affective Appraisal Theory is relevant to this research, especially with respect to the potential of the 360-degree videos to induce a wide variety of emotional experiences (Toet et al., 2020). From an operational point of view, this theoretical framework captures emotions alongside the subjective assessment of affective arousal in particular contexts (Israel & Schönbrodt, 2019). It includes cognitive processes associated with appreciation, valence, intensity, goal obstruction, novelty, and other dimensions of an event or situation (Jokinen & Silvennoinen, 2020). According to Affective Appraisal Theory, emotions do not respond only to what happened but are also driven by an individual appraisal of the event (Metts, 2015). This process of evaluation considers the person's objectives, knowledge, and task environment and combines all these elements to reveal a range of subjective emotional experiences (Luo & Chea, 2018). The theory has been used in a variety of research areas, for example, human-computer interaction (Jokinen & Silvennoinen, 2020) and human-virtual reality experiences (Meuleman & Rudrauf, 2018).

Although understanding an individual's affective state in human-technology interactions is crucial, there are a scarce number of studies that have explored the affective reaction in relation to 360-degree videos. Ausin-Azofra et al. (2021) examined the influence of prefrontal brain activity and emotions in the comparison of 2D and 360-degree videos, indicating that 360-degree videos evoke more positive emotions when it comes to advertising. In a similar study, Oh et al. (2021) found that while beautiful landscapes similar to 360-degree videos of virtual reality technology may emotionally attract viewers, these desirable experiences do not always lead to stronger persuasion. In the field of tourism destinations, Kelling et al. (2017) explored reactions, emotions, and perceptions triggered by a 360-degree video promotion of an airport and the local attractions and highlighted the crucial unique content and emotional attachment of such videos. In addition, Oncioiu and Priescu (2022) pointed out that the use of virtual reality in destination marketing with such tools as 360-degree video tours may change both the desire to travel and the experiences on site, turning it into a keystone of planning in the industry.

## **RESEARCH METHOD**

### **Research Approach**

The investigation employed a qualitative content analysis approach as the chosen methodology for the pursuit of its objectives. Content analysis of a qualitative nature is an effective research approach for studying social media discourse because it is flexible and helps in identifying new research questions (Parker et al., 2011). According to Marying (2004), textual data analysis requires researchers to systematically analyze the text data to produce themes or categories, thereby allowing them to delve into the data. Using qualitative content analysis, researchers are able to analyze text data, create typologies, sort data into different categories, and count how many times each theme or category has appeared. The flexibility and usability of the software are in different domains, for example, examining the use of social media in writing education (Jones & Robbins, 2016). In addition, Snelson (2016) underlines the strength of qualitative content analysis, as a method suitable for a variety of social media research contexts, including the analysis of Facebook posts, tweets, and YouTube videos. In addition, Rodriguez and Storer (2020) reveal the utility of this method in a descriptive analysis of social media data, especially when using topic modeling techniques.

## Data Collection Procedure

This study focuses on YouTube, which is considered a powerful social media platform for destination marketing, particularly in the hospitality industry (Sambhanthan, 2020). The study focuses on a 360-degree guided video tour shared on YouTube. By searching for “360-degree video guided virtual tour tourism destination” on YouTube’s search engine, several channels offering tours of tourism destinations were identified. A prominent YouTube channel that specializes in producing popular tourism destination virtual reality and 360-degree videos was chosen for the study. The selection was based on the channel’s popularity (64,000 subscribers), the quality of the 360-degree video (option for 4K or 8K resolution), and the video contents related to 360-degree video-guided virtual tours of tourism destinations.

Only one 360-degree video-guided virtual tour from the YouTube channel was selected to ease data management and reduce bias. It was deemed suitable for this study as it aligns with the aim of the current study, which is to explore viewers’ affective responses related to their 360-degree virtual guided tour video experience. The selected 360-degree video-guided virtual tour was uploaded on February 25, 2021; the duration is 9.04 minutes; it was liked by 2,600 people and viewed by more than 960,368 people worldwide. This indicates the video content’s adequacy, recency, and relevancy to the target audience (Gaus et al., 2021).

Based on the chosen 360-degree video-guided virtual tour, non-random purposive sampling was used to select relevant reviewers’ comments. The sampling approach is appropriate for qualitative investigations in which the researcher seeks informants with the greatest in-depth understanding of the subject under investigation (Elo et al., 2014). Only comments made in the English language were included in the corpus for further analysis. This prevents misinterpretation of comments posted in other languages (Huang et al., 2016). Based on these criteria, 90 comments were included as valid samples for the study. The comments were copied word-for-word from the YouTube 360-degree video-guided virtual tour and transferred to a Microsoft Word document. Though publicly accessible data such as the number of likes, views, and comments on public posts can be used for research purposes (Schumann, 2022), great care has been taken to protect the privacy and confidentiality of the 360-degree video-guided virtual tour viewers.

## DATA ANALYSIS AND RESULTS

The data was analyzed using Voyant Tools, a free online software widely used for textual analysis. The software has five main interactive analytical tools: trends, cirrus, summary, contexts, and reader. Additionally, the interface of Voyant Tools includes the other 29 support capabilities, and the displayed analytics may be readily adjusted by the user using the interface. A wide range of input types, such as URLs, plain text, HTML, XML, PDF, RTF, and Microsoft Word, are within its capabilities.

In the data preparation stage, the data was cleansed before performing the content analysis. This required eliminating any special characters or markup tags, an essential step in getting ready to use the chosen text-mining software (Maceli, 2015). Subsequently, the function of the Stopwords was employed to refine the text analysis findings. The most often used terms in any language, such as conjunctions, articles, prepositions, and pronouns, are eliminated when using the Stopwords option because they don’t contribute much to the text that has to be examined. Some highly common words, such as “*the*,” “*a*,” and “*you*,” are automatically excluded by Voyant Tools and added to the Stopwords list, which can be reviewed and modified by clicking the settings button in the Summary tool’s header area. Other superfluous terms like “*haven’t*,” “*ok*,” and “*it’s*,” were added to the Stopwords list to be eliminated from the data analysis. Using the Voyant Tools, additional lightweight text analytics techniques were performed in addition to word clouds, including word frequency lists, frequency distribution graphs, and keywords in context.

A total of 90 comments with 1,087 total words were analyzed. Overall, most of the 360-degree video-guided virtual tourism destination comments are positive. This indicates viewers' favorable attitude towards the 360-degree video-guided virtual tourism destination. The use of positive adjectives such as "wonderful," "amazing," and "beautiful" indicates a positive sentiment. Viewers admire the 360-degree video-guided virtual tour content and their overall experience. This positive sentiment suggests the viability of 360-degree video-guided virtual tourism destinations in providing a satisfying and immersive experience for the audience. Figure 1 shows the most frequently associated words with the word video across the corpus.



Figure 1. The Most Frequent Words Associated with the Word Video Across the Corpus

Many comments show appreciation, such as "Wonderful video dear. I enjoyed watching" and "Thank you! Amazing video." These remarks highlight the viewers' responses, highlighting the pleasure they felt during the virtual tour. The evidence of words like "wonderful" and "amazing" suggests a strong positive emotional response. Some viewers recognize the quality of the virtual immersive experience, mentioning features like the 3D aspect and expressing enthusiasm for the technology; "It's cool, right? The virtual 3D is awesome too!" This statement reveals that viewers are not intrigued by the destination but by the technological elements that enhance their virtual journey. One comment stands out for acknowledging how the video offers an experience of travel; "This is amazing...this is just like traveling!" This observation underscores how effective the 360-degree video is in replicating a travel experience, satisfying a longing for exploration when actual travel may not be feasible. Furthermore, expressions of thanks and praise further underscore how well received the video is; "Beautiful, thank you for the video" and "Congratulations. Beautiful video." The remarks imply gratitude for the work that went into making and presenting the virtual tour. Additionally, a statement such as "I feel this video great pleasure when cannot going out for tourism" suggests that experiencing virtual tourism brings happiness and contentment, especially when faced with limitations on physical travel.

Upon examining the word clouds generated by the most commonly occurring ideas across the datasets, our research initially reveals that five terms stand out as the most pertinent across the entire corpus: video (28), VR (17), thank (14), great (11), and 360 (9). Figure 2 indicates the word cloud visualization of the most frequent words across the corpus.



*“I would love for it to last longer... still, it’s **great!**”*

*“I feel this video **great** pleasure when cannot going out for tourism.”*

*“**Great** job, guys, really! Nice choice of the viewpoints and time, short and informative info, good language!”*

*“**Great** job with the tour.”*

The results also indicated the viewers were grateful for the 360-degree video-guided virtual tour experience. This evidence, with the term “*thank you*,” was recorded as the third most frequent word found in the dataset. Statements associated with the term “*thank you*” as follows:

*“Beautiful, **thank** you for the video.”*

*“This is simply incredible! Wow! **Thank** you!”*

*“I was able to have a valuable experience. **Thank** you.”*

## DISCUSSION

The research findings shed some light on individuals’ reactions to and judgment of the 360-degree guided virtual tour video and present them as an innovative destination marketing tool. The positive responses from the viewers are the leading indicators of the success of these videos in provoking emotions. The words “wonderful,” “amazing,” and “beautiful” used by viewers represent their experiences and imply a true liking for the virtual tours they are watching. These positive emotional reactions conform to the available literature about virtual reality and 360-degree videos in the destination marketing, thereby, affirming their capacities to strengthen the sense of presence, induce mental imagery, and positively affect people’s perception of destinations (Adachi et al., 2020; Bogičević et al., 2019). The viewers’ comments clearly show the appealing aspect of the 360-degree video-guided tours with the viewers being eager about the virtual experience and agreeing that such videos can provide an experience close to actual traveling.

Virtual reality and 360-degree attributes identified in viewer comments emphasize the importance of these features in the overall affective appraisal. There is no doubt that fans of virtual reality technology enjoy its possibilities, and some argue that using additional 360-degree video devices would increase the immersive effect. This integration is perfect for modern digital tourism destination marketing since new technologies are crucial in attracting the audience and providing attractive experiences (Martins et al., 2017). In such a fast-evolving environment, destination marketers need to be flexible and open to new technologies and trends in the industry. For destinations to remain competitive, ongoing observation of interactive components and digital marketing approaches is necessary. Early adopters of advanced technologies get more attention from audiences and become the leaders in digital tourism marketing. Such flexibility gives users an improved viewing experience and an edge in the dynamic digital environment.

Appreciation and praise in viewers’ comments emphasize the worth of the effort spent in making and presenting the tour. In addition to the destination itself, production quality and storytelling significantly influence viewers’ positive evaluations. Destination marketers can exploit this knowledge by showcasing the destination and accentuating the thoughtfulness and immersive aspect of the content of their virtual tours. To improve viewer response, destinations should invest in superior 360-degree video production techniques such as using new technological characteristics, updating camera equipment to have high-quality images, accepting virtual reality’s development, and using interactive features to improve virtual tourism.



By embracing 360-degree video technology, destination marketers can offer memorable unique experience that can contribute to positive users' perceptions, attitudes, and behaviors toward tourism destinations.

The evidence of viewers expressing joy and satisfaction, particularly in the context of restricted physical travel such as the COVID-19 pandemic, highlights the potential of 360-degree video-guided virtual tours to serve as a source of pleasure and fulfillment. In challenging circumstances where travel may be limited, virtual tourism experiences can provide an alternative means for individuals to explore and enjoy new destinations. Destination marketers should prioritize storytelling as a crucial element of virtual tourism content. Crafting narratives that evoke emotions and resonate with viewers enhances the emotional connection between the audience and the destination. 360-degree video-guided virtual tours: storytelling goes beyond showcasing visuals; it creates a memorable and immersive experience. Destination marketers can employ skilled storytellers or collaborate with professionals to weave narratives that captivate audiences and leave a lasting impression, contributing to positive affective experiences and strengthening the destination's reputation.

## CONCLUSION

The study attempted to explore the underlying mechanisms by which the affective appraisal of 360-degree guided virtual tour videos is formed. Based on the qualitative content analysis of YouTube's 360-degree guided-virtual tour videos, it can be concluded that 360-degree video-guided virtual tourist destination videos can serve as a viable innovative marketing tool. Theoretically, the study contributes to the underexplored area of user affective experience in the context of a 360-degree video-guided virtual tour. Also, it contributes to the current body of knowledge on digital destination marketing innovations. Practically, the acknowledgment of the significance of promoting tourism destinations and emphasizing virtual tour content's immersive and technological features pertains to destination marketers. Understanding the perceptions and emotional experiences of viewers are essential for improving the effectiveness of 360-degree guided virtual tour videos. It is anticipated that 360-degree video technology will become a major force in revolutionize tourism destination marketing.

This study has limitations that should be addressed in future evaluations of 360-degree video technology. Initially, since the research relied on user-generated comments from a particular YouTube channel, it's possible that the conclusions cannot be applied to other 360-degree virtual tour platforms or films. A larger dataset, including various platforms and channels, can be investigated for a more thorough knowledge of audience responses. Second, although the study concentrated on qualitative content analysis of viewer comments, a quantitative analysis might reveal additional information about the frequency of themes and attitudes. To further improve the depth of comprehension, surveys or the use of advance sentiment analysis technologies could be used to measure viewer feelings more consistently. Finally, the study did not investigate the influence of 360-degree video-guided virtual tour on behavioral intentions or actual travel decisions; instead, it focused on the emotive appraisal of the material. Subsequent quantitative investigations may explore the relationship between favorable emotional experiences gained from virtual tourism and ensuing travel-related actions.

Even with the study's shortcomings, the findings are still useful to inform future research directions. Continuous research is vital to stay abreast with the recent advancements and trends in digital tourism destination marketing. This is because digital technologies constantly evolve, making it significantly more challenging for destination marketing organizations to keep up with new advances. For destination marketers to continue to be effective in a digital landscape that is continuously shifting, it will be necessary for them to investigate and modify their strategies continually following the feedback they receive from users and the advancements that have been made in technology.

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