

THE CONTRIBUTION OF VIRTUAL REALITY TECHNOLOGY IN THE DEVELOPMENT TOURISM IN YOGYAKARTA

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Abstract

The tourism sector provides a significant contribution to the Gross Domestic Product (GDP) of the Republic of Indonesia, both through foreign exchange and economic turnover. Although the Indonesian tourism industry after the COVID19 pandemic has changed with an emphasis on green and clean products, it is hoped that this sector will be lessened by the community compared to the previous era. Research and development of VR has been carried out in various fields such as games, education, aviation, medicine, the application of VR in tourism is still common, there is a need to implement tourism while staying at home. The results of the systematic literature review conducted provide an explanation of the starting point for research by applying VR and making 360° videos for industrial tourism.

Keywords: Environmental Tourism, Virtual Reality, Video

INTRODUCTION

For three months since the first case of Covid-19 was announced in March 2020 by President Joko Widodo, the government has continued to make efforts to mitigate and handle it as much as possible so that the virus does not spread and cause casualties. The COVID-19 pandemic that has hit Indonesia over the past three months has indeed had a significant impact on the economy and tourism sector.

Tourism has the potential to be managed as a source of regional revenue budgets. It is hoped that the development program for resources and tourism potential will provide income for economic development. The arrival

of tourists to the Tourist Destination Area (DTW) has provided prosperity and welfare for local residents. The purpose of this document is to define and describe project requirements and to describe system functionality and limitations. In the world of tourism, business activities in the form of services have become an important part or it can be said that they cannot be separated. This activity has become a necessity for supporting the world of tourism, be it tours or travel. But with the corona virus 19 outbreak, the world of tourism has become worse. The role of technology is expected to help provide great benefits to the world of tourism during the Covid-19 pandemic and be able to rise

again and be able to hypnotize the general public.

Virtual reality is a computer simulation generated from a three-dimensional environment as a natural extension to 3D computer graphics with software and hardware. Virtual reality is quite relevant for the application of techniques in material management. The tourism industry is considering applications for virtual reality techniques to provide solutions to tourism during a pandemic. Technology status is applied to carry out projects that demonstrate feasibility and use virtual reality to facilitate product design. Then virtual reality can also be used as a tourism environment and virtual tour that provides someone looking for travel solutions during the covid outbreak. Virtual reality is an environment that refers to an environment that is generated by a computer processor, even though the environment is irrelevant by the computer. Includes the addition of an integrated camera for remote presence or additional use of.

Tourism by some people is perceived as a foreign exchange earning economic parameter for economic development in Indonesia. However, basically tourism has broader development indicators and parameters for the country. Tourism can give a feeling of joy to respondents through religious travel activities, culinary tours, rural tours carried out by residents throughout the country. So that with the indicator of respondents who make travel visits to tourist objects other than the place where there will be a sense of

kinship and aesthetics, the process of the life of the people visited will increase the sense of national unity and unity. Tourism is then used as poverty reduction, tourism development that is able to provide opportunities for all of Indonesia to do business and work. Tourists to an area should provide a significant visit to improve the welfare of the community. Thus, tourism will be able to contribute greatly to poverty in various regions with poor economic potential. Sustainable Development With the nature of tourism activities that offer natural authenticity, diverse culture and hospitality, very few resources are used up to support these activities.

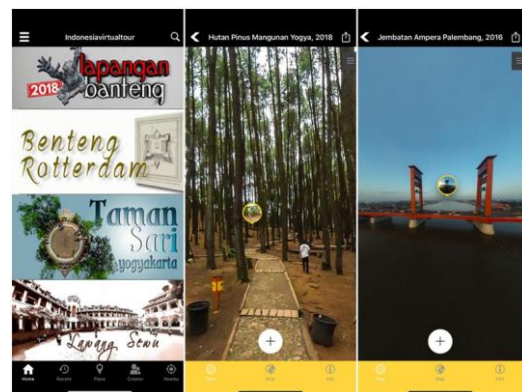


Figure 1. Video 360° Indonesia Virtual Tour

(Source: <https://bit.ly/360tourism>)

LITERATURE REVIEW

Research on the application of virtual reality has been carried out by many previous researchers and produced various VR models that have been successfully applied to various tourism industries. There needs to be a review of previous research so that it can be used as a guide for conducting research and to see the extent of

differences that can be compared with previous research. The following are some of the previous studies related to similar research topics:

Tejawati (2019) in his research entitled "Promotional Media for Captive Breeding of Sambar (Deer Unicolor) as condition of the natural environment and society in a tourist destination has increased significantly as a result of the development of tourism in the region. Cultural Preservation Tourism development should be able to contribute to real efforts to preserve the culture of a country or region, including the protection, development and utilization of culture.

Ecotourism in North Paser Sharpening based on virtual reality" in this study, he discussed creating promotional media for ecotourism in deer breeding in Api-api Village, Waru District, North Penajam Paser. It is hoped that it can add information to the public and tourists outside the region about ecotourism of deer breeding in Api-Api Village, as well as attracting the interest of the public and tourists outside the region to come to the sambar deer captivity in Penajam Paser Utara.

METHOD

The type of research adopted in this research is to use qualitative research as a research methodology, namely research that is produced through examining the root causes of problems that occur in the environment or social sciences and especially those related to increasing understanding of the problems that occur in research objects in the social environment.

Qualitative research is usually used in a particular social context. Qualitative research does not always aim to find the cause and effect of something, but rather seeks to understand a particular situation to arrive at an objective conclusion.

In terms of its nature, this research is descriptive research, which means that research that describes certain objects and explains things related to or systematically describes the facts or characteristics of certain populations in certain fields factually and accurately.

The approach adopted in this study uses a qualitative approach that has root causes in social science, and is mainly related to understanding the problems, impacts and solutions that are happening to tourist destinations during the Covid-19 pandemic.

RESULTS AND DISCUSSION

In analyzing tourism places based on the situation and layout involved in the tourism process, then making a visual design. This research consists of various stages in profiling using algorithms to find the right target variables based on the data found. In a tourism place, there are several interesting locations to be visited by potential tourists. The tourism location review process usually consists of a trip from the beginning of a potential tourist to the tourist spot. In the process of the journey, the use of profile analysis which plays a role in supporting the determination of the mapping path that will be used to arrive at the destination. Through statistics to determine the

variables used to find the physical characteristics of the tourist object, the design is described and modeled accurately and accurately, then a

profiling analysis can be built through an algorithm sources, and data analysis techniques.

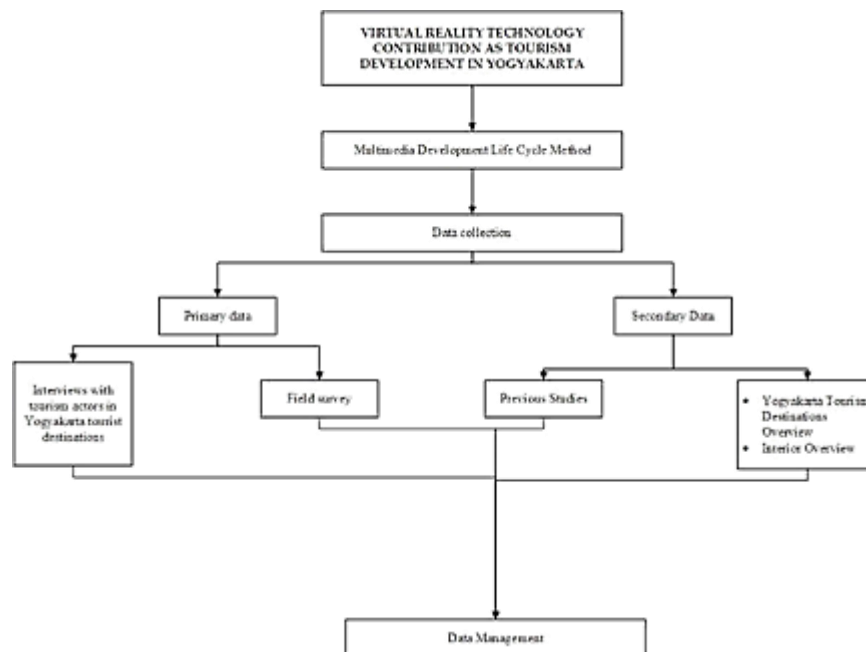


Figure 2. Research Flow Chart
(Source: Data analysis, 2020)

In terms of behavior segmentation, a priori awareness of the COVID-19 issue will further increase the digital behavior of tourists to avoid high-contact with the CHSE (Cleanliness, Health, Safety, Environment Sustainability) protocol from policy makers so that behavior before, during and after visiting will be dominated by this digital behavior. Branding destinations in this pandemic are very important to support the marketing and promotion of tourism destinations, both digital and non-digital. Marketing through digital in its current condition is very supportive and is the right solution in driving destination marketing, especially those that avoid low-contact.

The process of making virtual reality at a tourist attraction begins by preparing a collection of data from the survey results in the field and on the social media platform of the tourist spot. In the process of making this video, it is necessary to identify alternative roads or roads that are often used by tourists to visit. The process of creating a profile using the Go Pro Hero camera and the editing process using the Adobe Primere Pro application, to produce relevant visuals. After getting data from these activities, the virtual reality data process becomes an important part of ensuring the visual functions to make the video 360°, adjusting the role of audio and clarity of text. The preprocessing stage then processes

unstructured image, voice and text data for correct and accurate correction.



Figure 3. Virtual Tour's Editing Content using Adobe Premiere Pro App

(Source: <https://bit.ly/virtualtoureditapp>)

The choice of tourist attraction is used to consider the virtual image that will be considered. Then the results are integrated with a conceptual algorithm so that the validity and level of the algorithm's measurement results can be tested. The profile analysis approach is used to retrieve and follow up so that the profile optimization can be used effectively and efficiently with relevant and proven data. The results of the analysis are then used for reference in placing the image appropriately based on the indicators obtained through social media activities from various respondents.



Figure 4. Heritage Virtual Tours

(Source: <https://bit.ly/vrheritage>)

In this section, the results and discussion are based on literature reviews and are categorized through 2 components of the contribution of virtual reality technology in tourism development, including:

- 1) The Data Exchange is Obtained to Digitalization Virtual Reality (VR)
The contribution system of virtual reality technology in tourism has introduced new innovations. The VR system can be seen as a solution to the COVID-19 pandemic as a solution for tourism actors, although this method is still being studied and weighed in terms of existing tourism indicators. The data obtained produces raw data and relevant information in modifications for the new tourism model.



Figure 5. Indonesia's Virtual Reality Tourism Apps

(Source: <https://bit.ly/inavrapps>)

- 2) The Impact of Tourism on Technology

Tourism industry has greater potential and opportunities than other industries due to the large number of industry service providers and producers of tourism products that are involved in it. In the development of the tourism industry, an important role in

technology development and information system development in taking existing opportunities to expand market segments, produce new tourism products, improve services and so on. to the market condition of the tourism industry is due to the various conveniences offered by virtual reality technology.



Figure 6. Virtual Geotourism Festival 2020

(Source: <https://bit.ly/geotourism20>)

CONCLUSION

In this study, the contribution of Virtual Reality (VR) technology to tourism in Yogyakarta is able to provide a more interactive display to users. Virtual reality technology is expected to increase the carrying capacity of tourism by promoting and empowering local tourism in the context of realizing Jogja tourism as world tourism. The contribution of virtual reality technology is currently very supportive and is the right solution in reducing the number of spread of covid 19 which avoids low-contact. In the future, it is hoped that more objects in the form of VR can be developed.

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