

# Virtual Reality Tourism:

## Digital Application as a Media Education of Tourist in the Covid-19 Era

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**Abstract**—The impact of Covid-19 in Indonesia has led to information technology innovations such as virtual reality tourism. By making a digital application, it can provide education and benefits caused by boredom when having to stay at home and tourist objects that are still closed. In this study using data collection techniques and SWOT analysis. While the results of this study are to see the strengths and opportunities if the application of Virtual Reality Tourism as a means of supporting tourism education while at home.

**Keywords**—virtual reality, tourism, digital application, media education, tourist

### I. INTRODUCTION

The current outbreak of the novel coronavirus SARS-CoV-2 (coronavirus disease 2019; previously 2019-nCoV), epi-centred in Hubei Province of the People's Republic of China, has spread to many other countries. On 30. January 2020, the WHO Emergency Committee declared a global health emergency based on growing case notification rates at Chinese and international locations. The case detection rate is changing daily and can be tracked in almost real time on the website provided by Johns Hopkins University [1](#) and other forums [1]. Social and physical distancing measures aim to slow the spread of disease by stopping chains of transmission of COVID-19 and preventing new ones from appearing. These measures secure physical distance between people (of at least one metre), and reduce contact with contaminated surfaces, while encouraging and sustaining virtual social connection within families and communities. Measures for the general public include introducing flexible work arrangements such as teleworking, distance learning, reducing and avoiding crowding, closure of non-essential facilities and services, shielding and protection for vulnerable groups, local or national movement restrictions and staying-at home measures, and

coordinated reorganization of health care and social services networks to protect hospitals. The measures are used in conjunction with individual protective measures against COVID-19 such as frequent hand washing and cough etiquette [2].

Planning and management, marketing, entertainment, education, accessibility, and heritage preservation are six areas of tourism in which VR may prove particularly valuable [2]. Part of VR's possible utility as a preservation tool derives from its potential to create virtual experiences that tourists may accept as substitutes for real visitation to threatened sites [3]. Recent technological innovations, including the rapid adoption of smartphones by society, have facilitated the access to virtual reality and augmented reality of anyone. The huge possibilities of accessible virtual technologies will make it possible to break the boundaries of formal education [4].

### II. VIRTUAL REALITY IN THE TOURISM AND EDUCATION

During the pandemic, Covid-19 began to plague Indonesia in mid-March, impacting on the limited space for human movement with the implementation of Large-Scale Social Restrictions. The implementation of work from home causes the citizens to experience burnout after more than 6 (six) months at home. Even though the "New Normal" has been implemented, the citizens desire to have a vacation and travel is certainly very strong. However, with limited space at this time, holidays have become a dream for citizens. In addition, tourist objects in several areas have not been opened, including several tourist objects in the city of Purwakarta which are still closed. Based on these conditions, it is important to develop "Virtual Reality Tourism" as an educational strategy and knowledge of tourist destinations for tourists, including people who are still staying at home or working from home until the end of the year.

Virtual Reality has been presented in the popular media as a medium, such as telephone or television. This new media usually defined in terms of a certain set of technological hardware, including computers, head-mounted monitors, headphones, and motion-sensing gloves. So, the focus of virtual reality is technology, not experience; the VR is collection of machines [5].

Internet during the millennium is certainly the main requirement in conducting transactions using ecommerce, especially with present of mobile devices such as mobile phone that making become easier [6]. A newer tracker app in VR is for controlling avatars, or virtual bodies, that are mapped to the user. In case of a head-mounted display illustrated in the receiver the tracer is placed on the user's head movements sampled by the electronic unit and sent to the host computer (in this case the graphics workstation). The computer uses tracer data to calculate new display directions of virtual scenes and to create easy drawings. This scene then becomes the National Television System Committee (NTSC) video signal that is viewed by two LCD screens. While this example illustrates the use of an HMD tracker, the screen cloud has become a much larger Immersive Workbench, but the requirement to measure the user's viewing direction remains. Without a 3D head tracker, the computer would not be able to change the spatial view to match the user's head, and the sensation of "immersion" would be lost [7].

With the COVID-19 virus in Indonesia, it currently impacts the entire community. According to Kompas, 28/03/2020 the impact of the COVID-19 virus occurred in various fields such as social, economic, tourism and education. Circular (SE) issued by the government on March 18, 2020, all indoor and outdoor activities in all sectors have been temporarily postponed to reduce the spread of the corona, especially in the education sector [5]. The situation that students are getting bored with needs different alternative activities in lessons outside of class hours. So that the authors provide a strategy using the "Virtual Reality Tourism" strategy as education outside of school subjects. By introducing students to tourism in the Purwakarta area, it is equipped with a 360° camera and 3D movie so that students are invited to like traveling as in the real world.

### III. METHODOLOGY

In this study, researchers conducted observations of various media and locations in Purwakarta. Accompanied by a SWOT analysis to find out the importance of making a virtual reality tourism application during the Covid-19 pandemic which requires everyone to stay at home in contributing to reducing the spread of the virus.

### IV. DISCUSSION

Purwakarta has densely populated industrial district neighbors, such as Karawang and Bekasi, and also not lacking potential of natural tourism, cultural tourism, pilgrimage tourism, and artificial tourism. It is really disappointing fact

that Purwakarta still get below average number of tourism rate. Although Purwakarta government trying to implement some digital tech with an introduction to using the website <http://purwakarta-tourism.com/> and the android application "Sampurasun", the system still only offers form of text and picture objects. Based on those fact, we try to implement concepts of VR tourism tech at Purwakarta district, West Java, Indonesia.

The findings suggest that residents whose heritage is positively promoted for tourism might be more likely to support its development than those whose religious or cultural heritage is ignored. Under such circumstances, identification with what is promoted could generate positive attitudes toward tourism development [8].

The advantages when virtual reality is built are: It is an option to get rid of boredom and educate yourself at home during the Covid-19 pandemic and no tourist attractions have been opened, Tourists can feel directly like feeling in a tourist attraction, Low cost compared to having to come directly to a tourist attraction, Providing education to tourists who want to travel in the district of purwakarta, Provide more experience in travel, Be a reference destination for travel and Even if you have to spend the budget to have a VR Box tool, you can buy it online at several market place.

And then the other opportunitie in this virtual reality tourism is: Increase the development of tourism promotion using technology, As a medium for introducing tourism at the school and general level, Collaborating with the district government of purwakarta in developing tourism.

Stakeholder in this application is: Internal- University, Student, Academics and College, External- Local government of Purwakarta, Society and School.

One of the tourist attractions that is often visited is Situbuleud or known as fountain tourism, which is the largest in Southeast Asia. This invention relates to ornamental fountains. My prior Patent 3,081,036 describes a water fountain which produces a particularly beautiful array of separate water droplets, the droplets having the appearance of crystals or prisms in the fountain pattern. Fountains produced in accord with this patent have been found, however, to produce non-uniform droplet patterns. For best effect, particularly at night when the fountain is artificially lighted, it is desired that the fountain pattern be composed of droplets of as uniform size and distribution as possible. Also the presence of fog or mist in the fountain pattern should be avoided as fog or mist can be easily blown by a light wind into areas adjacent the fountain where people may be present, and it detracts from the aesthetic appeal of the fountain [9]. Fountain show at night can be seen in figure 1.



Fig. 1. Fountain show at night.

And there is still a big tajug located in Cilodong Village, Cikopo Village, Bungursari District and many more tourist attractions in Purwakarta district. In some countries it has become commonplace, even in Indonesia itself, to make mosques as tourist attractions that offer beauty is very common. Many of the world's most impressive natural and cultural sites are located in countries where Islam is the dominant religion (e.g. Petra in Jordan, the Great Pyramids of Egypt, the Roman ruins of Syria, Lebanon and Libya, the ancient cities of Yemen, the vast deserts of Saudi Arabia, the rain forests of Malaysia and volcanoes of Indonesia). Yet with only a few exceptions, Islamic countries generally have not seen significant growth in tourism during the past twenty years, and most have not become major international destinations since the end of the Second World War, when global tourism began to flourish [10].

As for the conditions in several places when making visits, there are still many closed as seen in figure 2 and can only visit at the gate of tourist locations during the Covid-19 pandemic on Friday 4 September 2020 to Saturday 5 September 2020 to conduct field observations and surveys.



Fig. 2. At the gate outside in tajug gede.

With the conditions during the Covid-19 pandemic, researchers thought important to develop "Virtual Reality Tourism" as an educational strategy and knowledge of tourist destinations for tourists and to be able to overcome the problems that occur, as a supporting tool for tourism education while staying at home.

## V. CONCLUSION

The result of this research is when we use the virtual reality tourism, although showing the real conditions for seeing and feeling but the real conditions are much more beautiful and good feeling. But in this condition during Covid-19, this application is expected to be able to overcome the problems that occur, as a supporting tool for tourism education while staying at home.

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