



Cultural-Heritage Virtual Tour for Tourism Recovery Post COVID-19: A Design and Evaluation

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<https://doi.org/10.18280/ij dne.170316>

ABSTRACT

Received: 6 April 2022

Accepted: 6 June 2022

Keywords:

cultural-heritage, virtual tour, tourism recovery, COVID-19

In tourism, virtual tours are one of the latest promotional trends utilized during the COVID-19 pandemic, especially in keeping potential tourists saturated and interested in visiting the tourist attractions when the 'new normal' conditions become stable. Furthermore, virtual tours are also a part of historical conservation for cultural-heritage tourism. This research aims to design a virtual cultural-heritage tour route in the Kesawan area of Medan city, make widely promoted virtual tour videos, and evaluate the quality of virtual tourism by arousing interest in prospective tourists to visit the cultural-heritage area of Medan city. Descriptive qualitative design and quantitative regression methods are adopted in this research. Qualitative descriptive and qualitative methods were used to explain the trips and measure the impact of virtual tours in the city of Medan, especially the Kesawan district as the research area. The first result showed the design of a virtual tour starting from the itinerary planning process, taking pictures, editing, and publishing on YouTube media. It was also observed that the published cultural-heritage attracts potential travelers to visit and physically experience the tourist attractions. Moreover, the virtual tour design will be enriched with the addition of English subtitles to obtain a larger audience.

1. INTRODUCTION

The tourism sector, which is one of the pillars of government that drives the nation's economy, has become one of the worst sectors following the outbreak of COVID-19 [1, 2]. The impact of COVID-19 pandemic on the tourism sector led to a decrease in the number of tourist visits into the country. Consequently, there was an average decrease of 70% in revenue for tourism business owners and a reduction in the tourism workforce [3, 4].

On the other hand, it appears that the saturation due to the pandemic will make a large number of people crave to travel after the end of the pandemic [1, 5]. Furthermore, health protocols such as the CHSE guidelines are becoming a concern of the traveling public in the tourism sector [6]. There is no denying that people's excitement and enthusiasm about post-pandemic travel will be an excellent opportunity for the tourism sector. Therefore, adequate preparation is needed to attract potential tourists to the culture, tradition, history, architecture, landscape, and other elements of tourist sites. One way to attract tourists is to promote these travel products through virtual tours [7].

Virtual tours are considered a tourist product and one form of promotional media. It is also considered a method of relaxation during a pandemic [1]. Some tourist attractions that perform virtual tours include Bogor Botanical Garden, Jakarta Old City, Taman Impian Jaya Ancol, and Tourist Railway in Yogyakarta.

In this research, the tourist attraction addressed is the Medan cultural-heritage site located in the Ahmad Yani Road corridor. The Jalan Ahmad Yani is the oldest street in Medan which is inhabited by many historical buildings by the side of the road. This area is considered part of the local heritage [8, 9]. The existence of this cultural heritage is one of the tourist icons of the city of Medan. Therefore, this research aims to describe the process of orchestrating virtual tours in the cultural heritage tourist area of Medan city, including the publishing process, and how this virtual tour affects people's interest in visiting the cultural heritage area of Medan City.

2. LITERATURE REVIEW

2.1 Virtual tour

A virtual tour is defined as a new paradigm and trend in the world of tourism that offers a realistic picture of a tourist attraction and its relative information [10]. Virtual tourism is part of the technology that transforms tourist attraction into a virtual form that is enjoyed without distance and time restrictions [11-13].

2.2 Cultural-heritage tourism

Cultural-heritage tourism refers to the process of enjoying attractions that have history, value, and a storyline [8, 14].

Cultural-heritage tourism are characterized by the following:

- 1) Providing a meaningful and exciting experience as a tourist product.
- 2) Historical value of places visited.
- 3) Buildings are with meaningful architecture.
- 4) Environmental conditions favourable to tourist activities.
- 5) Added value in tourist travel from the day-to-day activities of the people.
- 6) Hospitality is an integral part of tourist facilities.
- 7) Stories about tourist areas of cultural-heritage are the main product of tourism.

The management of cultural-heritage tourism should support efforts to preserve the cultural-heritage itself [15, 16]. In other words, the development of cultural-heritage tourism activities should not reduce or destroy the value of the cultural-heritage. Therefore, tourist activities are expected to be a tool that supports the preservation of cultural-heritages.

3. METHODOLOGY

The methodology used in this research is a hybrid method that utilizes a qualitative methodology in describing the process of developing virtual tours for cultural-heritage sites in Medan city as well as the publishing process. Furthermore, quantitative methods are used to examine the influence virtual tour has in prompting tourists to visit the cultural-heritage sites in Medan city. The latter method was carried out by distributing questionnaires to 184 respondents who had seen virtual tours disseminated through a google form with the link: s.id/wisatapusaka. The questionnaire has two main variables related to the respondent's perception of virtual tourism they had listened to and their interest in visiting the Kesawan region after listening to the virtual tour.

4. RESULT

4.1 Overview of Kesawan Area

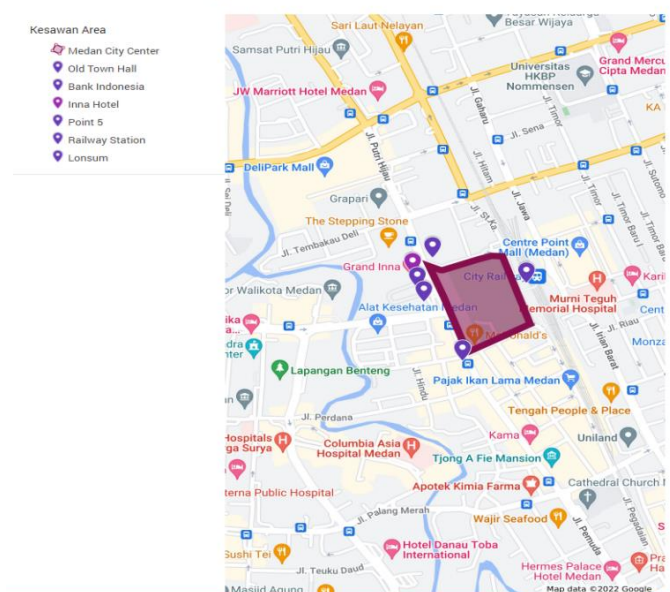


Figure 1. Kesawan Area as cultural heritage site in Medan

Ahmad Yani Street Corridor, commonly known as Kesawan Area, which is the focus of this research, was developed in the early 1800s for residential and commercial functions, and offices. This area is considered to be the forerunner of the development of the city of Medan. Figure 1 shows the Kesawan area and its surroundings.

The buildings in the Kesawan area are made up of old Dutch and Chinese colonial-style buildings. There are also several buildings with ancient architecture and some recently renovated buildings. However, some of the renovations accomplished on old buildings have also contributed to the historical impact of the area, especially with the many billboards covering the building's façade, the impression of cultural-heritages has begun to disappear from this area.

4.2 Virtual tour creation process

The first and fundamental element needed in creating a virtual tour is to determine the location that will become the attraction and then select the order of visit. This research places emphasis on the location of each tourist attraction in developing an itinerary for virtual tourism, which are as follows:

4.2.1 Old Town Hall (Balaikota Lama) building

This building, erected in 1908, was originally inhabited by the first Mayor of Medan, Mr. Baron Daniel Mackay. The building was renovated in 1913 by installing a large wall clock that still functions to date. This wall clock was a gift from Tjong A Fie, who was a famous billionaire in Medan City. Another feature of this building is its architectural style that follows the classic European style with predominantly white colour. Today, the building no longer serves as the mayor's office, but is part of the Grand City Hall Medan Hotel.

4.2.2 Bank Indonesia building

The building right next to the 'Balikota Lama' is the Bank Indonesia Unit 1. This building is among the remnants of the Dutch colonial era that are still well preserved today. The style of the building adopts a renaissance style with a characteristic shape of a diametrical building with horizontal lines along the walls.

4.2.3 Hotel Inna Dharma Deli

This hotel, formerly known as Hotel De Boer was built in 1909. The name of the hotel corresponds to the name of its owner, Herman De Boer, who migrated to Medan city in 1899. Originally, this hotel had only two floors and is claimed to be the first hotel in Southeast Asia to use mosquito mesh. Currently, the De Boer hotel, which is now managed directly by the government, has changed its name to Hotel Inna Dharma Deli and was renovated to eight floors.

4.2.4 Post office

In front of Hotel Inna Dharma Deli, is a post office that still properly functions to date. Originally, the building was constructed with tiled floors, tile roofs, and reinforced concrete poles. The writing on the top wall of the 1911 ANNO door shows the year the building was erected, which was in 1911.

4.2.5 Railway station

The Medan railway station is also a historical relic. The station was built in 1981 and has gradually been renovated to

serve multiple routes, including routes to the Kualanamu Airport.

4.2.6 London Sumatra

The last tourist attraction selected in this virtual tour is Lonsum (London Sumatra), is a building currently owned by PT London Sumatra Indonesia. This building was constructed in 1914 with tiled floor building materials, brick walls, reinforced concrete poles, and tiled roofs. This building was previously owned by the Harrisons & Crosfield plantation company which was later handed over to the Dutch government and named the Juliana Building. It's also the first building in Medan city to use a cage-shaped elevator with art-deco motifs.

After defining the tourist attraction that will be part of this virtual tour, some devices and equipment were also prepared, such as smartphones, DJI drone, voice recorder, and microphone clip-on. Furthermore, the video editing process would be carried out using Adobe Premiere Pro computer software.

The theme of this virtual tour is a walking tour that will be attended by students from the Medan Tourism Polytechnic, which is one of the universities involved with vocational tourism in Medan city. The voice actor and lead role in this virtual tour are students from the same institution.

After the finishing process, a virtual travel video of 5 minutes 54 seconds was developed. Afterward, the video was uploaded on the student's YouTube account with the link: s.id/J68JL. As of November 20, 2021, the number of virtual tourist viewers had reached 1,100. Figure 2 displays a screen-capture of Virtual Tour uploaded via YouTube channel.



Figure 2. The opening of virtual tour

4.3 The influence of virtual tour on visiting interest

A total of 184 respondents completed a short questionnaire related to virtual tourism that has been widely published through YouTube channels. A simple regression method is then used to determine the influence of the quality of virtual tourism on potential tourists of the cultural-heritage area in Medan city. The results of the validity and reliability tests are displayed in the following Table 1.

Table 1. Reliability test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.879	0.941	11

The reliability test results can be seen in Table 1 above, displaying an alpha value of 0.879 and the Cronbach's Alpha based Standardized items of 0.941. These two values indicated that the research instrument is consistent, because both scores

are > 0.600 [17]. Subsequently, the validity tests are performed by comparing the r-calculate and r-table values. R-table value for the respondent of 184 is 0.1447 [18]. The r-count for 11 items is in the range of 0.729 – 0.892. It was observed that r-count > r-table, therefore all questionnaire items used in this research are valid.

The following Table 2 is a summary model of the regression analysis carried out.

Table 2. R-Summary

Model	R	R Square
1	0.754 ^a	0.568

The table above reveals the magnitude of the influence of the virtual tour quality on visiting interest variable. It is also observed that the Correlation Coefficient (R) value is 0.754^a, with the letter "a" indicating the predictor variable, namely the quality of the virtual tour. The R-square value shows the ability of the predictor on the interest in visiting variable. It was observed that the quality of virtual tourism made has an influence of 56.80% on the interest in visiting the Cultural-Heritage area in Medan city. The remaining percentage is as a result of the effect of other variables.

Table 3 shows a significant influence between the variable quality of virtual tourism and the interest in visiting the cultural-heritage area of Medan city. The table's output indicates that the F value is calculated as: 239,096 with a significance of <0.001 means that the virtual tourism quality variable can predict the variable of interest in visiting the cultural-heritage tourist area in Medan city.

Table 3. Annova

Model	Sum of Squares	Mean Square	F	Sig.
1 Regression	784.396	784.396	239.096	<.001 ^b
1 Residual	597.082	3.281		
Total	1381.478			

a. Dependent Variable: The Quality of Virtual Tour

b. Predictors: (Constant), The intentions to Visit

In Table 4 below, the constant value is 7.733 while the quality of virtual tourism value is 1.390, so the regression equation can be written as follows:

$$Y = a+bX \text{ or } 7.733 + 1.390X$$

The coefficient b, called the regression direction coefficient, represents the change in the average variable Y for each shift in variable X by one unit. From the equation above, it can be translated that:

- 1) The constant value of 7.733 indicates that the interest in visiting the cultural-heritage area in Medan City is 7.733 when the quality of virtual tourism is zero.
- 2) The regression coefficient X equal 1.390 indicates that the direction of the relationship between the two variables is positive. With each addition in the value of virtual tourism quality, the value of the interest in visiting the cultural-heritage area will increase by 1.390.

From the table above, we can also conclude that there is an influence between virtual tourism quality and people's interest in visiting cultural-heritage areas in Medan city. From the results of t-count of 15.463, significance value of <0.001, and

t-table value of 1.9731, it can be concluded that there is an influence between the quality of virtual tourism and the interest in visiting the cultural-heritage area in Medan City.

Table 4. Coefficients

	Model	B	Std. Error	Sig.
1	(Constant)	7.733	1.238	<.001
	The intentions to Visit	1.390	0.090	<.001

Dependent Variable: The Quality of Virtual Tour

5. DISCUSSION

Based on the above results, it is seen that the process of making virtual tours is broken down into several stages, namely: preparing the itinerary, preparing equipment, editing process, and publication process. Furthermore, the itinerary process requires precision in developing a tourist attraction of unique locations. It indicates that there has to be a selection process, and not all attractions have to be included in one virtual tour because the saturation of the audience must be taken into account when making virtual tours. This saturation is related to the duration of the record-tape when an individual is watching it. Long videos cause boredom and research showed that the best duration for a record-tape to attract public attention is 2-5 minutes. Therefore, the design duration is limited to 5 minutes and 54 seconds. Also, it is essential to pay attention to the order of visits in locations where the attractions to be visited are organized according to the flow of tourists.

In this research, walking tour methods were used hence the direction of traffic did not have to be taken into account when selecting the order of tourist attractions to be visited. However, if the virtual tourism approach relies on the use of transport, a single pathway and its opposite direction of traffic needs to be considered.

The selection of equipment is the second step. In this research, the equipment used for cinematic video recording was quite simple. This equipment was selected and utilized according to the theme already established. The editing process, which is the process that follows the selection of equipment, was conducted using Adobe Premiere Pro computer software. This application was selected because it has an integrated work feature, for instance, the editing and monitoring process are carried out simultaneously by several design teams. In this editing process, the scene of images and videos is arranged according to the order of visits. Subsequently, it was ensured that the audio was properly balanced and coordinated with the movement of images. Also, subtitles were added to make sure the audiences are easier to enjoy this virtual tour video.

The publishing process is the final step, and in this research, the Medan Tourism Polytechnic student's YouTube channel was used for the virtual tourism publication process. After the video was published, a total of 184 respondents gave responses to the assessment of the quality of virtual tourism presented and to what extent this virtual tour aroused their interest in visiting Medan city, especially to visit the attractions they saw during the virtual tour. From the results of a simple regression analysis carried out, it appears that the quality of virtual tourism made in this research has a significant influence on the interest in visiting the cultural-heritage tourist area of Medan city. These results are in line with the results of previous similar research that suggested that the quality of content on Virtual Reality (VR) tourism plays a role in generating

satisfaction and intention to visit the tourist site [19, 20]. Likewise, the existence of a virtual tour in locations difficult to access or during circumstances such as the current pandemic where travel is restricted is a means of promotion for prospective tourists [7].

6. CONCLUSION

From this research, it is concluded, as follows:

- 1) The process of creating virtual tours may differ, but it certainly starts with a designed process called itinerary, equipment selection, the editing process, and publication.
- 2) There is an influence between the quality of virtual tourism and the public interest in visiting the cultural-heritage area in Medan city.

The significance of this research is that it does not only focus on the process of evaluating virtual tours currently circulating but also explains the process of the embarking on the trips. The virtual tour that has been designed is also uploaded to a YouTube channel accessible to the public, serving as a means of promotion as well as education related to historical places in Medan City.

The historical locations used, is a form of educational contribution to the community and potential visitors in Medan City. The referenced tourist attraction has a uniqueness that is rarely discussed when visitors come to Medan City.

This research is not without limitations because the videos are always reserved for Indonesians and may not be appreciated by potential foreign visitors. This limitation largely restricts the number of potential tourists to the local population. It is further recommended that even though the spoken language in the virtual tour videos would still be in the Indonesian language, the video subtitles should be in English or other popular languages, hence the listener population is increased.

ACKNOWLEDGMENT

We are very grateful to the people at Politeknik Pariwisata (Poltekpar) Medan for their help, especially Adam Redyansyah, a student from Tourism Departement, who helped a lot in creating and publishing the virtual tour.

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