Soil and Agriculture Museum Communication Strategies Utilizing Virtual Tour During Pandemic

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Abstract. The pandemic situation and the implementation of Large-Scale Social Restriction policies mean that museums as educational tourism destinations must close their services. The Soil and Agriculture Museum is taking steps to utilize technology in its management through virtual tour. This research aims to determine virtual tour technology as a communication strategy used in serving visitors. This research was conducted using a qualitative approach with the case study method. The theory used in this research is John Middleton's Communication Strategy which explains the interaction process within an organization to achieve its goals. Research data was obtained from interviews, observation, documentation, and literature study. The research results show that virtual tour are a successful communication strategy carried out by The Soil and Agriculture Museum by facilitating museum visits using the Zoom application and social media to promote it so that people are more interested in visiting.

Keywords: Communication strategy, Museum, Virtual tour, Pandemic covid-19, Digital tourism.

1 Introduction

Indonesia was affected by the Covid-19 pandemic in early March 2020. This caused many changes to occur, one of which was the form of communication and interaction between individuals. The Covid-19 pandemic has forced people to keep their distance from each other and minimize direct communication. The massive spread of the virus prompted the government to issue a large-scale social restriction (PSBB) policy, causing museums, tourist and educational attractions to be forced to stop operating and close their services. Museums are organizations that have the aim of preserving, expanding, utilizing, and disseminating collections to the public [1]. The report on the number of visitors to The Soil and Agriculture Museum, from January 2020 to December 2022 can be seen in Table 1.
Table 1. Number of visitors to The Soil and Agriculture Museum in 2020-2022

<table>
<thead>
<tr>
<th>Month</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>3.904</td>
<td>402</td>
<td>743</td>
</tr>
<tr>
<td>February</td>
<td>5.745</td>
<td>102</td>
<td>263</td>
</tr>
<tr>
<td>March</td>
<td>1.384</td>
<td>415</td>
<td>700</td>
</tr>
<tr>
<td>April</td>
<td>0</td>
<td>817</td>
<td>267</td>
</tr>
<tr>
<td>May</td>
<td>1.285</td>
<td>380</td>
<td>922</td>
</tr>
<tr>
<td>June</td>
<td>811</td>
<td>540</td>
<td>1.243</td>
</tr>
<tr>
<td>July</td>
<td>0</td>
<td>360</td>
<td>1.292</td>
</tr>
<tr>
<td>August</td>
<td>0</td>
<td>1.060</td>
<td>1.212</td>
</tr>
<tr>
<td>September</td>
<td>74</td>
<td>250</td>
<td>1.661</td>
</tr>
<tr>
<td>October</td>
<td>151</td>
<td>800</td>
<td>1.111</td>
</tr>
<tr>
<td>November</td>
<td>169</td>
<td>376</td>
<td>1.571</td>
</tr>
<tr>
<td>December</td>
<td>0</td>
<td>500</td>
<td>1.791</td>
</tr>
<tr>
<td>Total</td>
<td>13.523</td>
<td>6.002</td>
<td>12.776</td>
</tr>
</tbody>
</table>

Source: Soil and Agriculture Museum Visitor Number Report Data Archive

From Table 1 above, it can be seen that there was a decrease in the number of visitors in March 2020 and zero (0) visitors in April, July, and August 2020 because offline services were completely closed. Museums must still comply with the rules even if circumstances require them to be closed. Therefore, it is a challenge for museum managers to apply their imagination in offering the best service to the public.

Museums are one of the educational tourist attractions that have an attraction for the public. Museums are generally places to store various collections of historical relics and civilizations from the past that have historical and cultural value [2]. Museums also have the aim of maintaining and organizing activities and exhibitions from the museum collection to be exhibited to the wider public and carried out regularly and openly [3]. On the one hand, visitors who come to museums generally want to relax with family or friends. But on the other hand, museums are also places of learning for students. Museums are a source of historical learning that can be utilized [4]. Through contact with museum collections, teaching history to students through museum media can improve their critical and creative thinking skills.

The Soil and Agriculture Museum, which is managed by the Agricultural Library and Literacy Center (PUSTAKA), Ministry of Agriculture, always tries to provide excellent service to the public. Many of the visitors served by The Soil and Agriculture Museum are students and scholars [5]. The Soil and Agriculture Museum has special staff who serve and guide museum educational tours. With the implementation of the PSBB regulations, the museum was closed to the public causing the service to be adjusted to the current pandemic conditions.
1.1 Middleton's Communication Strategy

A communication planning expert, John Middleton, stated that a communication strategy is the best combination of all communication elements starting from the communicator, receiver, message, media, and effects designed to achieve communication goals optimally [6]. Selection of strategy is an important stage that requires special handling in carrying out communication planning. Communication strategy is essentially planning and management carried out to achieve a goal [7]. To achieve this goal, the communication strategy must be able to demonstrate the efforts made technically. The approach is carried out in different ways depending on the situation and conditions that occur. Communication strategy determines the success of activities in conveying communication messages through various media that can be received effectively.

In communication strategy, there are three stages starting from planning, implementation, and evaluation. 1) Planning is carried out starting from the formulation of the strategy to be implemented, 2) Implementation of the activity program is carried out and the mechanisms that are carried out, 3) Evaluation is carried out to assess benchmarks for the success of the communication strategy plan that has been determined which can then be used in determining the next activity program [8].

1.2 Digital Communications

Digital communication is virtual and occurs online which is dynamic and continues to develop along with the development of new internet-based tools and applications [9]. How quickly communication technology is developing, is changing the way individuals exchange information and communicate. Digital communication is slowly replacing traditional communication. Digital communication uses various media, including Zoom Meeting and Google Meet as examples of the media most often used in the education sector to disseminate information to students. There are a number of characteristics of digital media that can help learning [10].

The use of communication technology cannot be separated from the role of the internet. Digital communication media assisted by the internet is able to connect information with individuals who need it. The current technological interconnection discusses how the world is a global village and what is happening [11]. The phrase global village refers to the use of digital communications technology that turns the entire planet into a village by providing information instantly, anywhere, and whenever it is needed. The application of existing technology not only results in a process of discovery but also changes society through technical innovation. Internet media has the advantage of wide, unlimited reach and affordable costs [12].

Data in the 2020 Indonesian Telecommunication Statistics Catalog explains that the purpose of internet use is dominated by using social media and getting information or news with percentages of around 95.56% and 79.04% respectively [13]. Meanwhile, according to the We Are Social website, internet users in Indonesia as released in January 2021 reached 202.6 million. This number reaches 73.7% of the Indonesian population [14]. The internet has changed the way of communicating and accessing information, especially during the pandemic. On May 25, 2021, the International Council of Museums celebrated International Museum Day with the theme "The Future of Museums: Recover and Reimagine" [15]. ICOM shares new communication technology practices together in creating value and new business models that provide innovative solutions in the use of digital communications to answer
challenges in the Covid-19 pandemic situation. This theme explains how important it is for museums to adapt and utilize digital communication technology in serving the public.

The attractiveness of digital services is increasing along with advances in information and communication technology and the conditions of the pandemic era. To reach a wider audience, traditional services are being replaced by digital services. Museums in Poland are one example that utilizes virtual tours, museums are digitally depicted in an effective and entertaining way [16]. Other research is related to the use of digital promotional media as a means of maintaining visitor visits through digital tourism, especially for areas with a rich cultural history. Using tactics based on the latest innovations in social media and internet marketing, including virtual museums. Research shows that virtual museums are useful for marketing purposes and can influence tourist’s interest in the Indonesian National Museum [17]. Digital virtual tour technology has become an interesting phenomenon to be used as a research object.

Another research entitled "Digital Tourism Museum Nasional Indonesia Melalui Virtual Tour Di Masa Pandemi Covid-19" explains that museums have a dual character where direct visit activities are packaged in an interesting way but still have to follow digital developments in having a virtual museum [18]. Virtual museums are not about eliminating their traditional functions but are about conveying the purpose of museums electronically [19]. Virtual visits to museums are a new media experience and form of communication. A guide explaining the museum's collections is certainly an experience in itself that gives visitors the experience of being in a museum and is a useful source of education [19].

Starting from the results of research regarding the virtual museum, researchers tried to conduct research on the communication strategy carried out by the Soil and Agriculture Museum through virtual tours which are used as digital communication media in serving the public. The Soil and Agriculture Museum utilizes digital communication technology to make it easier for museum guides to interact with online visitors in two directions.

2 Methods

The method used in this research is a case study at the Soil and Agriculture Museum with a qualitative approach. To provide a perspective on a problem, this research uses a single case study that focuses on one case only [20]. The single case raised in this research relates to the use of virtual tours during the pandemic carried out by the Soil and Agriculture Museum in their communication strategy. Qualitative research puts forward an approach to exploring and understanding the meaning of individuals or groups that are considered social problems [21]. Qualitative research is an approach to collecting data in a natural setting that aims to describe a phenomenon, where research is the key instrument by means of purposive sampling [22]. Purposive sampling itself is taking samples from non-randomized sources with a focused view on objectives [23].

The data collection technique was interviews with the management of the Soil and Agriculture Museum. In order to focus on the research objectives, interviews were conducted in an organized manner using questions that had been previously formulated in the hope that informants could clarify the problems that were occurring [24]. Apart from conducting interviews, researchers also carried out observations to obtain data that was not found in the interviews. by analyzing documents from digital media and literature studies. Observations were made by directly visiting the Soil and Agriculture Museum and its virtual tour service.
Data from interviews, documents, and field notes were analyzed and compiled systematically as part of the data analysis technique process [25]. The process of searching for and classifying records, interviews, and other sources to better understand everything collected and enable communication of what is found. There are three steps that include the data analysis technique process: analyzing various types of data, classifying or categorizing data, and interpreting or creating data [26].

3 Results and Discussion

In the research conducted, researchers interviewed 4 (four) managers from the Soil and Agriculture Museum who had an important role in designing the Soil and Agriculture Museum's communication strategy using virtual tours. The four informants are State Civil Apparatus (ASN) and Government Employees with Work Agreements (P3K), namely Rima Setiani (Head of the Museum), Dian Sri Mardini (Functional Archivist), Aji Widhi Wibowo (Information Technology Staff) and Asep Mulyana (Museum Guide). The selection of informants was to determine the focus on research problems regarding the practice of using the virtual tour of the Soil and Agriculture Museum. Based on the case study method used in the research, the results of interviews from all informants were used as a variety of complementary data from various points of view of each informant.

Virtual Tour is one of the ways used by the Soil and Agriculture Museum to introduce various agricultural galleries more closely to the public with competent guides. Virtual museums are a collaboration in offline and online museum planning using communication and information technology [27]. The Zoom application used by the Soil and Agriculture Museum is the main digital communication technology for connecting with the public as a form of virtual service. In this research, interview questions for informants focused on how the communication strategy carried out by the Soil and Agriculture Museum used virtual tours during the pandemic so that it was able to continue providing services to the public.

3.1 Planning

The Soil and Agriculture Museum started planning by forming an implementation team. The implementation team was formed so that the virtual tour activity was successful, of course, the team met the criteria for communicators who have credibility and knowledge regarding museum collections. As a new museum that was inaugurated on April 22, 2019, the Soil and Agriculture Museum must be known first by the public, one of which is through virtual tour activities. Informant Rima (interview on 21 August 2023) revealed that:

"The Museum became a Technical Implementation Unit (UPT) with the issuance of Minister of Agriculture Regulation No. 48 of 2020. When the Minister of Agriculture Regulation was published, the Museum started from scratch. Not long after it was inaugurated, there was a pandemic. To become a UPT, it must have Human Resources (HR). In 2020 there is only the Head of the Museum and several human resources available. So, we have to think about it by forming an implementation team for the next activity" (Informant Rima, Head of the Soil and Agriculture Museum)

This activity was prepared to attract public interest in visiting the museum online. In virtual tour activities, the implementing team acts as host, co-host, museum guide, and coordinator in each area of the museum. In accordance with the mission of the Soil and Agriculture Museum,
namely communicating and providing information on the museum's collections to the wider public.

Determining the receiver of messages from virtual tour activities is carried out in order to map visitor segmentation. The collection owned by the Soil and Agriculture Museum is an educational tourism-type collection, so the receiver of the message is primarily aimed at students. Students are expected to become more familiar with agricultural commodities so that they are interested in learning more about the world of agriculture. However, the collection of the Soil and Agriculture Museum is also intended for wider segmentation of students and researchers for the purposes of ongoing research, as well as the general public.

After formulating the receiver of the message, the communication strategy moves on to an effective message. The message must attract attention, arouse interest, trigger desire and encourage action. The Soil and Agriculture Museum prepares messages that will be conveyed to the public according to a predetermined strategy. The advantages of the Soil and Agriculture Museum as stated by informant Rima (interview on 21 August 2023) stated that:

"The collection of the Museum is unique, like a type of soil that perhaps other museums in Indonesia don't have (not yet surveyed). "Why did we decide to do a virtual tour because during the pandemic there were already several applications from schools, especially for visits." (Informant Rima, Head of the Soil and Agriculture Museum)

This was also supported by informant Dian (interview on 22 August 2023) who said that:

"Before 2020, we already carried out visiting services from schools. When the pandemic hit, we couldn't provide visiting services, suddenly we couldn't visit. The only opportunity is a virtual tour.” (Informant Dian, Functional Archivist of the Soil and Agriculture Museum)

The criteria for reach, ease of access, and maximum impact that can be achieved are the basis for selecting media determined in planning communication strategies. Media selection itself is a process where an organization chooses what communication media will be used to achieve its goals. As conveyed by informants Rima and Dian above, the Soil and Agriculture Museum uses the Zoom application media so that communication takes place effectively and in two directions between museum guides and visitors. Apart from that, the Soil and Agriculture Museum utilizes its social media such as Instagram, Facebook, and YouTube to promote information on activities and documentation of virtual tours carried out because it has the advantage of wide reach and easy access.

3.2 Implementation

Virtual tour activities are carried out by first preparing tools or equipment including hardware consisting of a laptop, cellphone, WiFi connection device, and microphone for the museum guide. Apart from that, the software used is also prepared, namely the Zoom application and Internet network. After preparing the equipment, the Soil and Agriculture Museum determines the human resources who will be in charge of the virtual tour activities. The division of tasks are divided into 1) Host: in charge of creating the Zoom application link to invite visitors or participants in virtual tour activities and managing settings during the activity, 2) Co-Host: in charge of backing up the host's duties and anticipating any network disruptions. occurs, 3) Museum guide: tasked with opening and closing the event, communicating with visitors, and explaining information related to the museum collection so that it can be received well via the
device used by each activity visitor, 4) Museum area coordinator: tasked with preparing the area that will be passed by the museum guide in accordance with the gallery collections owned by the Soil and Agriculture Museum as well as following and recording the activities of the museum guide.

3.2.1 Communicator

A communicator is a person who conveys messages or ideas in a communication process [6]. Communicators can involve individuals or groups. The Soil and Agriculture Museum consists of the Head of the Museum, 2 (two) functional positions, and 7 (seven) executors consisting of 4 (four) ASN and 3 (three) P3K who are involved in implementing the virtual tour. The seven implementers have a role as guides which are divided according to their respective competencies in the existing agricultural gallery. However, it does not rule out the possibility of the Head of the Museum taking part in a virtual tour when online museum visitors are attended by heads of agencies or other important officials. Informant Rima (interview 21 August 2023) said that:

"The implementation will be guided by a museum guide who has been appointed to guide the virtual tour. They will be given assignments in each existing gallery. Apart from the guide, the Head of the Museum is also involved as an opener or introducer, greeting visitors, then continued by the guide." (Informant Rima, Head of the Soil and Agriculture Museum)

So, it can be understood that in implementing a virtual tour, the communicators involved consist of staff and employees who act as guides and heads of museums as introducers to virtual tour activities.

3.2.2 Receiver

The receiver is the person who receives the message conveyed by the communicator, either through an intermediary or without an intermediary. At the Soil and Agriculture Museum, the segmentation of the message receiver is mostly students. Apart from students, message receivers also came from students, researchers, foreign nationals, and the general public. As stated in the virtual tour visitor data for 2020-2022 below:

![Data Segmentation of Visitors The Soil and Agriculture Museum for 2020-2022](image)
From the circle graph above, it can be seen that visitors to the Soil and Agriculture Museum in 2020-2022 are dominated by students (52.99%), the general public (22.48%), and college students (10.31%). Then followed by institution (7.43%), researcher (3.46%), community (3.07%), and foreign nationals (0.27%). As stated by Dian (interview 22 August 2023) that:

“The segmentation up to now is mostly students. Elementary, middle, and high school students. Apart from that, there were also several visits from agencies/institutions, communities, students, researchers, and the general public. One of them is a field trip or field study from Bogor Agricultural Institute students. There are also many communities, especially in Bogor, The Historia Community often visits. The Explore Community is also working together. As for routine public programs with Belantara Budaya.” (Informant Dian, Functional Archivist Soil and Agriculture Museum)

3.2.3 Messages

The Soil and Agriculture Museum is one of the educational tourism destinations located in Bogor City. The thematic museum concept that is being proposed displays galleries about soil science and agriculture. In general, museums only have collections of objects or buildings according to the culture in Indonesia, but the Soil and Agriculture Museum has a unique collection by providing various collections such as a) Soil, Climate, and Agricultural Environment Gallery, b) Food and Civilization Gallery, c) Policy and Commodity Gallery, d) Future Agriculture Gallery and e) Livestock Gallery. As stated by Asep (interview date, 22 August 2023):

“Messages or information regarding the collections held by the Soil and Agriculture Museum. Visitors or the visiting public need information and education. Information about the collections owned. Education about how we care for the soil and introducing children to the fact that Indonesian agriculture is rich, so it's not only information but also education.” (Informant Asep, Guide to the Soil and Agriculture Museum)

So, it can be understood that the message conveyed to the public does not only contain information about agriculture but also as an educational medium for the school-age group.

3.2.4 Media

The virtual tour carried out by the Soil and Agriculture Museum is a museum-guiding program carried out online via the Zoom application. Virtual tours become a bridge between museum guides and visitors to facilitate online visiting activities. This is done with the aim of two-way communication via digital communication technology. Aji said (interview date, 21 August 2023), stating that:

"The medium is via Zoom to facilitate two-way communication between museum guides and visitors. After the session ends, usually many visitors want to ask questions about the collection. "The promotional media used include social media, including Instagram, Facebook, YouTube and WhatsApp groups.” (Informant Aji, Information & Technology Staff of the Soil and Agriculture Museum)
Virtual tour activities are promoted by uploading information and documentation via the Instagram, Facebook, and YouTube pages owned by the Soil and Agriculture Museum as shown in the image below (Figures 2, 3, and 4).

Fig 2. Information on Virtual Tour Services via Zoom Media Published via Social Media Instagram @museum.tanahdanpertanian
Source: https://www.instagram.com/museum.tanahdanpertanian/

Fig 3. Implementation of a Virtual Tour via Zoom Media Published via the Agricultural Museum's Facebook Social Media
The Zoom application is one of the communication technologies that is very important to use in helping and supporting the implementation of online activities during the pandemic in order to stay connected with the public in public services. The Zoom application is the main digital technology to maintain two-way communication in connecting the Soil and Agriculture Museum with the public as a form of service that is carried out virtually.

3.2.5 Effects

The Soil and Agriculture Museum holds routine activities carried out virtually so that it can continue to serve the public during the pandemic. The various things that are obtained when providing services are of particular satisfaction to museum managers. The most noticeable effect is the increase in the number of visitors. This has made the Soil and Agriculture Museum slightly change its procedures for virtual tour activities, including accepting visits by reservation. As said by informant Asep (interview on 22 August 2023) he revealed that:

"The virtual tour that will be held next is based on reservations so that implementation is more efficient. There is a request from the school for x number of students on this date and time so that it doesn't conflict with other visits. Because this is related to the availability of human resources as well." (Informant Asep, Guide to the Soil and Agriculture Museum)

Apart from increasing the number of visits, virtual tour activities are also accompanied by expanding visitor segmentation. Not only visitors from around Bogor City, the virtual tour was also attended by participants from outside Bogor City. This indicates that the Soil and Agriculture Museum is becoming more widely known by the public. From the virtual tour activities, informant Aji (interview on 21 August 2023) explained that:
“We still carry out several programs but in a hybrid manner. Such as temporary workshops, orchid workshops, and coffee workshops. However, the coffee workshop was held when the pandemic started to slow down. "Actually, the Museum is still confused about the existing conditions, but the museum program must remain alive, the museum must remain well known until finally holding the program." (Informant Aji, Information & Technology Staff of the Soil and Agriculture Museum)

3.3 Evaluation

Measuring the level of success of the communication strategy needs to be evaluated. The role of evaluation is used as a reference to see whether the plans prepared are appropriate or not so they have an important role in determining at the beginning as a guide when the plan is set. In conducting the evaluation, Informant Dian (interview on 22 August 2023) revealed that:

"For our evaluation, there is a Community Satisfaction Index (IKM) which will be filled in by virtual tour visitors at the end of each activity session. Apart from that, we also provide a suggestion box regarding the implementation of activities to see what deficiencies still occur so that we can improve them in future activities" (Informant Dian, Functional Archivist of the Soil and Agriculture Museum)

In line with Dian, informant Rima (interview on 21 August 2023) also revealed that:

"The benchmark is the number of visitors, then the activities carried out for the service. For management, namely recording, which has not been done so far, we have done. Including making virtual tour rules and conditions posted on social media. The Community Satisfaction Index (IKM) has been met, and the number of visitors has also been met. Everything that was planned has been fulfilled" (Informant Rima, Head of the Soil and Agriculture Museum)

As an agricultural educational tour that provides an experience for visitors, the Soil and Agriculture Museum displays agricultural collections from the past, present, and future in the museum as a superior activity. In November 2021, the Soil and Agriculture Museum started to reopen face-to-face services with various health protocols that must be met because public demand to be able to visit the museum directly is increasing. However, requests for virtual tour activities from people located quite far from the museum are still being carried out.

4 Conclusion

Based on the problems and objectives of this research, it answers how the digital communication strategy carried out by the Soil and Agriculture Museum uses virtual tours during the pandemic. The planning process is carried out by analyzing the availability of communicators involved, receiver segmentation, messages to be conveyed, use of media, effects caused, and evaluations carried out as an optimal form of service to the public. The decline in the number of visitors due to extraordinary circumstances and the government policies implemented has made the Soil and Agriculture Museum try to implement digital communication strategies to stay connected with the public.

Based on the case study method carried out, the research results show that communicators, receivers, messages, media, and effects are closely related to the digital communication strategy used by the Soil and Agriculture Museum. Using the Zoom application is able to
create two-way communication with both the museum and visitors. The digital communication technology used by the Soil and Agriculture Museum provides great benefits by reaching more and wider visitors during the pandemic. Moreover, with the help of social media, it shows that virtual tour activities are able to increase the number of visitors in 2020 and for last 2021 before finally, the museum reopens for face-to-face activities which further increases people's interest in visiting the museum directly.

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References
