Identification of Information Technology Potential as an Attraction of Betawi Museum, Setu Babakan

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ABSTRACT

In the current era of information technology development, it cannot be ignored that this innovation has changed people’s lifestyle to become modern. The utilization of information technology also helps make it easier to work smoothly in various industries, one of which is the tourism industry. The purpose of this study is to identify the types of information technology applied by Museum Betawi to increase their attractiveness, analyze the sustainability strategies carried out by Museum Betawi in the application of information technology, and provide recommendations for Museum Betawi to improve the effectiveness of strategies and the use of information technology to strengthen as one of the destinations of interest to tourists. The research method used was qualitative, namely direct observation and interviews with the Betawi Museum manager. The analysis technique used is descriptive qualitative. The results of our research, Museum Betawi located in Zone A Setu Babakan is one of the tourist destinations that utilizes information technology as a tourist attraction. The museum applies 3 (three) information technologies, namely digital platforms consisting of websites, Google Forms, and social media; two-dimensional technology, namely QR Codes; and electronic devices, namely Projectors and Touchscreen TVs called interactive projection rides. The potential of the application of information technology can provide an interactive experience for tourists, assist in the management of tourist destination resources, and as a destination promotion. Museum Betawi’s current sustainability strategy is to focus on maintaining existing information technology. The challenges of Museum Betawi in the application of information technology are information inaccuracies, damage to technological devices and promotional strategies.

Keywords: Artificial tourism, Betawi museum, Challenges, Information technology, Sustainability strategy

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1. INTRODUCTION

In the current era of information technology development, it cannot be ruled out that this innovation has changed people’s lifestyles to become modern and shows a paradigm shift in people’s daily lives. Digital transformation has brought changes in the way people communicate, work, access information,
business models, and more [1]. At present, information technology is also very helpful for humans in carrying out activities, for example, Quick Response Code (QR Code) is often used to direct users to websites/social media/applications, provide more information, and online transactions; Augmented Reality (AR) and Virtual Reality (VR) are often used for marketing, promotion, providing experiences, and others [2]. From several kinds of information technology, this innovation is utilized as a potential for smooth work in various industries, one of which is the tourism industry [3].

The utilization of information technology in the tourism industry is not only limited to booking tickets or accommodation, but also includes a richer and more interactive tourist experience in a tourist destination [4]. In this context, advances in information technology have a significant impact on the attractiveness of a tourist destination, allowing the visitor experience to be more interactive, educational, and comprehensive [5]. One of the tourist destinationsthat utilizes the potential of information technology is the Betawi Museum.

Museum Betawi is one of the tourist attractions located in the Zone A area of Setu Babakan, which is precisely on Jl. RM. Kahfi II, RT013/RW008, Srengseng Sawah, Jagakarsa, South Jakarta City. Setu Babakan itself is known as a Betawi Village that preserves Betawi culture, and the Betawi Museum is a place to preserve valuable history that reflects the life of the Betawi people in the past [6]. With the availability to document, preserve, and exhibit Betawi cultural heritage, Museum Betawi must face the challenge of remaining relevant and attractive to a generation that is increasingly connected to technology. So until now, Museum Betawi has utilized the development of information technology as their attraction.

The influence of information technology on the attractiveness of tourist destinations cannot be ignored. Better interaction, customization, and accessibility of information can be the key to a destination’s success in attracting visitors [7]. With the development of mobile apps, smart sensors, and technology-based platforms can enhance the tourist experience by displaying and presenting information about the history, culture, and background of tourist destinations [8]. In the case of Museum Betawi, the application of information technology can be an important factor to develop Betawi historical and cultural stories, and at the same time provide tourists with an unforgettable experience.

From the above information, it can be found that the formulation of the problem of this research is what are the information technologies applied by Museum Betawi to increase tourist attraction, and what are the strategies in further development, especially in the implementation of information technology. The purpose of this study is to identify the types of information technology applied by Museum Betawi to increase their attractiveness, analyze the sustainability strategy carried out by Museum Betawi in the application of information technology, and provide recommendations for Museum Betawi to improve the effectiveness of strategies and the use of information technology to strengthen as one of the tourist destinations of interest to tourists.

2. LITERATURE REVIEW

2.1 Information Technology

Information technology is a general term for technology used in creating, storing, transforming, and disseminating information. According to the Kamus Besar Bahasa Indonesia (KBBI)[9] online version, Information Technology is the use of technology such as computers, electronics, and telecommunications to process and distribute information in digital form. According to Indonesian Law No. 11 of 2008 on Informasi dan Transaksi Elektronik (ITE), information technology is a technique for collecting, preparing, storing, processing, announcing, analyzing, and/or disseminating information [10]. According to the National Institute of Standards and Technology (NIST), information technology includes equipment or systems used in the acquisition, storage, processing, management, mobility, control, display, transfer, exchange, transmission, or reception of information automatically [11]. According to Martin (1999), information technology not only
focuses on computer technology (hardware and software) used to process and store information, but also includes communication technology used to send or disseminate information [12].

Information Technology indicators applied by Museum Betawi are in the form of digital platforms, electronic devices, and two-dimensional technology, with further explanation below:

a. A digital platform is a program that allows users to access, manage, and obtain information privately via the internet or local networks [13]. A digital platform is a system that functions as a tool in bringing together individuals, groups, or organizations online. Some types of digital platforms are social media, e-commerce, digital wallets, digital education, digital transportation, websites, and so on [14]. The digital platform applied by Museum Betawi as a means of information technology is a website as a platform to provide information about Museum Betawi, Google Form for visitor registration, and social media as their promotional media.

b. Two-dimensional technology is visual technology that only has length and width dimensions on a single flat plane. Two-dimensional technology is often used by several fields, such as fine arts, animation, mathematics, and gaming [15]. Two-dimensional technology is also used in Augmented Reality (AR) technology, where virtual objects in either two dimensions or three dimensions are projected on the real world. An example of the use of two-dimensional technology in AR is the use of QR codes to get additional information about a particular product or place [16]. From this intention, the QR code is utilized by Museum Betawi for information access and access to their visitor registration.

c. Electronic devices according to the Kamus Besar Bahasa Indonesia (KBBI) [9] online version is physical equipment that uses electricity or electronic signals to process, generate, and deliver information. Some types of electronic devices such as computers, cell phones, televisions, cameras, household appliances that use electronic technology, and so on [17]. The electronic devices applied by Museum Betawi as a means of information technology are Projectors and Touchscreen TV.

2.2 Artificial Tourism

Artificial tourism is a component or activity in tourist destinations created by humans [18]. According to KEMENPAREKRAF Regulation number 4 of 2021 concerning Business Activity Standards in the Implementation of Risk-Based Business in the Tourism Sector, artificial tourist attractions are man-made attractions, either the tourist attraction itself or other man-made structures, which are introduced with the aim of attracting and contributing to the tourist experience [19].

Museums are buildings or buildings used for the storage of historical objects or have historical, artistic, and scientific values [20]. From this explanation, it can be seen that Museum Betawi includes artificial tourism, and because information technology is also man-made. That way, the application of information technology is the attraction of artificial tourism at Museum Betawi.

2.3 Tourism Potential

Tourism potential is a condition in a tourist destination in which there are aspects that support the existence of the main object [21]. Tourism potential is a diverse natural resources, human cultural wealth that can be developed for tourism. According to Yoeti (2010), tourism potential is everything that is managed and provided to be utilized as an ability, factor, and element needed in tourism business and development, including atmosphere, events, objects, and services [22]. From this explanation, potential can also be referred to as the attractiveness of a tourist destination. The potential in the application of information technology can provide an interesting experience for tourists, operational efficiency, and destination promotion.

3. METHODS
The object of this research is the utilization of information technology at Museum Betawi, Zone A Setu Babakan, South Jakarta. The subject of this research is the manager of Museum Betawi, whose focus is on information technology management. The research was conducted at the Betawi Museum, Zone A Setu Babakan, Jl. RM. Kahfi II, RT013 / RW008, Srengseng Sawah, Jagakarsa, South Jakarta City. The research time was conducted in November 2023. There are 2 (two) data sources in this study, namely primary data and secondary data. Primary data is data obtained directly, such as interviews, surveys, and direct observation. While secondary data is data from pre-existing literature. The type of data used is qualitative, qualitative data is a type of data that is not measured by numbers. This data is descriptive and can be observed, such as from text; images; and others [23]. The analysis technique used in this research is descriptive qualitative analysis, which analyzes existing data, images and literature, by describing and describing the data descriptively [24].

4. RESULTS AND DISCUSSION
4.1 Museum Betawi Profile

The Betawi Museum is one of the tourist spots in Zone A of the Setu Babakan Betawi Cultural Village. The Betawi Museum was built from 2012 to 2015 and opened to the public on July 30, 2017. In 2022, Museum Betawi officially met the requirements for establishing a museum and was included in the museum data throughout Indonesia owned by the Directorate of Cultural Protection, Ministry of Education, Culture, Research and Technology with a national museum registration number, namely 31.74.K.03.0285 [25]. This museum operates on Tuesday to Sunday and is open from 09.00-15.00 WIB. An interesting fact about this museum is that visitors are free of charge or free to enter the Betawi Museum.

The Betawi Museum has three floors that serve visitors by displaying various historical objects of the ancient Betawi people, which are divided into 3 galleries with the following divisions [26] :

1) On the 1st floor, there is a Gallery of 8 Betawi Cultural Icons. The 8 (eight) Betawi cultural icons are ondel-ondel, coconut flower, gigi balang, sadariah, kebaya kerancang, Betawi batik, kerak telor, and bir pletok.

2) On the second floor is the Betawi House Gallery, which displays equipment used daily by the Betawi people, such as equipment in the living room, dining room, bathroom, and farming equipment.

3) On the 3rd floor is the Betawi Bridal Gallery, which features bridal outfits, sie-like offerings, betel leaf sets, and crocodile bread. Figure 1

![Figure 1 Betawi Museum](image)

4.2 Application of Information Technology in Betawi Museum

Through an interview with Mrs. Riri, one of the managers of the Betawi Museum, this tourist destination began implementing information technology in 2020, namely virtual tours. Because in that year there was the spread of the Covid-19 virus and the enactment of PPKM (Pemerintah Pekanbaru Kota Masyarakat), several tourism destinations had to close temporarily, as well as the Betawi Museum. They display virtual tours on their official website, the Betawi Cultural Village website, and also share them on social media such as YouTube with the channel name @upkb_setubabakan and Instagram with the account name @upkb_setubabakan. The purpose of this destination implementing a virtual tour is so that tourists can still experience tourism at Museum Betawi through online during PPKM. After this innovation, in the following year Museum Betawi began to add the application of information technology as their attraction, with the hope of providing a varied; unique; and unforgettable experience for visitors. Museum Betawi implements...
information technology for their attraction, namely digital platforms, two-dimensional technology, and electronic devices. Here is a further explanation:

A. Digital Platform

In accordance with the theoretical study, the digital platforms used by Museum Betawi are website, google form, and social media. The following is the explanation:

1) Website

Web-based information technology is very important at this time for tourist destinations, it can make it easier for prospective tourists to determine the tourist objects they want to visit, make it easier for the public to obtain information related to tourism in a region, as a medium for tourist destination information in tourism development, and optimize tourism potential in a wider market through online management [27]. Actually, the Betawi Museum itself does not have a personal website, but is incorporated into the official website of the entire Setu Babakan and also the KEMENDIKBUD website. After interviews and searching for information about the Betawi Museum website, researchers found that there are 3 (three) websites that display information about the Betawi Museum, following the website link, here is the view of the website:

First website: https://www.setubabakanbetawi.com/museum-betawi/


Figure 2 Setu Babakan Betawi Website

Figure 3 Website of Betawi Cultural Village

Third website: https://museum.kemdikbud.go.id/museum/profile/museum+betawi

Figure 4 KEMDIKBUD website

In Figure 2, it can be seen that the website displays information about Museum Betawi in the form of text and images, but the information content is only a little so it is unfortunate. In Figure 3 it can be seen, previously it has been said that this website displays the Betawi Museum in the form of a virtual tour, website visitors can see how the Betawi Museum building looks from the outside and inside. In Figure 4 it can be seen that the website is under the ownership of KEMDIKBUD (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi), this website is fairly complete information. Because this website provides access to information about the history and images of Betawi culture.

2) Online Registration Using Google Forms

Currently, many tourist destinations in Indonesia use applications or online platforms for registration of visitors who want to enter tourist destinations. One example is Google Form, an online service that makes it easy for users to create forms or questionnaires as needed. This application is effective and practical for collecting certain information, such as visitor lists, webinar participants, and others. GoogleForm creators can customize questions, such as name, email,
education, mobile number, and other items. The use of Google Forms is very helpful in collecting data from visitors or webinar participants, and the results can be exported to Microsoft Excel format for further analysis [28].

Likewise with Museum Betawi, they utilize Google Form for online registration of visitors. This provides benefits for destination managers to know the number of tourist visits every day.

Show the staff that you have registered (4) After filling in the registration with google form, visitors are allowed to enter to see the contents of the Betawi Museum. Visitors will not be charged or free for admission to the museum.

Still related to ticket booking, Museum Betawi itself does not prepare online ticket booking whether it is individual or group. But for visitors whose purpose is to conduct research; education from educational institutions; and the like at Museum Betawi or other places in Setu Babakan, they must confirm via e-mail to Setu Babakan beforehand at upkpbsetubabakan@gmail.com until approved by Setu Babakan.  

3) Social Media

According to the book entitled "Social Media: Perspectives on Communication, Culture, and Sociotechnology" written by Rulli Nasrullah in 2017 [3]. Social Media is a phenomenon that emerges along with the development of increasingly advanced technology. The presence of increasingly sophisticated technology facilitates the exchange of information and contributes to various industries, one of which is the tourism industry. Social media as an online social network has many benefits in the tourism industry, as well as the Betawi Museum.

From the information obtained, Museum Betawi does not have a personal social media but is incorporated with Setu Babakan's social media, but still exists where some social media promotes Museum Betawi. Social media used by Setu Babakan are as follows:

- Facebook: @Upkpbsetubabakan
- X: @UPKPBB
- YouTube: @upkpb_setubabakan
- Instagram: @upkpb_setubabakan
- TikTok: @lensabetawi

Museum Betawi uses social media as marketing and promotion of their products, interacting with tourists, conveying information for visitors, image building and branding, understanding tourists' preferences and needs, providing space for innovation and creativity, and as a data analysis tool to determine the performance of their marketing.
understand audience behavior, and make more informative decisions.

B. Two-Dimensional Technology

In accordance with the theoretical study, the two-dimensional technology applied by the Betawi Museum is QR Codes. QR codes are one of the most popular technological developments today. QR code expert, Benjamin Claeys, sees great potential in the benefits of 2D barcodes which have recently increased rapidly. According to Claeys, the industry is currently increasingly understanding the usefulness of QR codes and their benefits for various sectors. One of them is Tourism, marketers utilize QR codes to drive target markets to online campaigns and businesses use QR codes for payment systems. Users can easily scan QR codes to view and interact with the encrypted digital content inside. In short, QR codes are becoming a digital tool that makes information dissemination and acquisition easier for users. Increasing smartphone users and internet access as the main factors behind the popularity of QR codes [29]. In the results of the interviews conducted, the first application of the QR code at Museum Betawi was in 2021. This QR code is utilized by Museum Betawi to access and display information to visitors about historical objects, art, Betawi cultural characteristics online. Figure 6

Figure 6 QR Codes on Historical Objects of Betawi Museum

In Figure 6, it can be seen that the QR code is used for access to provide information on the objects displayed at the Betawi Museum. Steps to scan the QR code: (1) Visitors open their personal cellphones, then go to their respective scan applications (2) Match the scan camera with the QR code. Here is a Figure of visitors scanning the QR code, Figure 7

Figure 7 Visitors scanning the QR code

(3) The phone will then access the information that will appear. After scanning the QR code, the cellphone will access the scan results, then display a brief explanation of the historical object. Here is an example of the QR scan results, Figure 8

Figure 8 Example of QR Scan Results

The image displays information from the QR code scan results, but some scan results are still weak because of the little information provided. But the application of this QR code is very good, because in this era of rampant technology, it really helps visitors get information faster.

C. Electronic Devices

According to the theoretical study, the electronic devices used by Museum Betawi are Projectors and Touchscreen TV, which are referred to as Interactive Projection Vehicles. Wahana Interactive Projection is a system that uses projectors to create interactive experiences on various surfaces, such as walls, floors, or whiteboards [30]. This Interactive Projection Vehicle has just been implemented in 2023, here is a further explanation of the Projector and Touchscreen TV:

1) Projector

Projectors are one of the technologies that are widely used everywhere, for example in schools or campuses, in theaters, and many more. For example, in a knowledge and science-based tourist destination, Taman Pintar Yogyakarta, the place utilizes projectors as one of their tourist attractions [31]. The application of this projector is on the 3rd floor of the Betawi Museum.
In Figure 9, Museum Betawi utilizes a projector to display information in visual form against the backdrop of Betawi songs, the projector presents information about traditional Betawi songs and music. In Figure 10, visitors are sitting and watching the screen from the projector. In addition, the museum also provides a mini stage in the area, where visitors are given an overview of the stage shape of Betawi music events.

2) Touchscreen TV

Touchscreen or touch screen, this one technology is not new anymore. Touchscreen is now widely applied in objects around us, for example cellphones, laptops, televisions, and many more. The type of touchscreen used by Museum Betawi is Touchscreen TV, the TV can be touched by visitors there. There’s only one Touchscreen TV in Museum Betawi and it is located on the 2nd floor. The TV displays a lot of information about Betawi culinary, visitors just click and select the information they want to know from the Touchscreen TV. Figure 11

4.3 Potential Application of Information Technology

From some of the applications of information technology, Museum Betawi has potential such as, experience for tourists, operational efficiency, and destination promotion, the following explanation:

- Experience for tourists, in the digital era, many tourists prefer to get information through digital platforms, because it is easier to get information. Therefore, this information technology can provide interactive guidance and relevant information for tourists. Thus increasing convenience, providing a more immersive, interactive and personalized experience.
- Operational efficiency, information technology can assist in the management and management of tourist destination resources, reduce workload and improve the suitability of data and information management, thereby improving operational efficiency, providing a better experience for visitors, and supporting the sustainable growth of the tourism industry.
- Destination promotion, social media can be utilized to engage with audiences and promote destinations, create engaging content such as blogs; articles; or videos for marketing strategies, thus helping to increase visibility, create interactions with potential travelers, and provide innovative marketing experiences.

4.4 Strategies and Challenges of Betawi Museum in Implementing Information Technology

Apart from interviews about the application of information technology at Museum Betawi, researchers also interviewed about the sustainability strategy and challenges of Museum Betawi in the application of information technology. From the results of interviews obtained about sustainability strategies, in 2023 the Betawi Museum has just implemented a new technology called the...
Interactive Projection Vehicle, which in this vehicle utilizes Projector technology that displays Betawi music and TouchscreenTV that displays Betawi culinary information. For the future, Museum Betawi has no plans to add more information technology, they will focus more on maintaining existing information technology. As for the challenges faced by Museum Betawi in the application of information technology are inaccuracies in information and damage to technological devices. For example, QR codes are often problematic in displaying information, tourists often experience this problem. Another challenge is the problem of social media promotion, this problem is actually very common in several industries, because it is not easy to attract visitors instantly. By facing these problems, the researcher hopes that Museum Betawi can overcome these problems well.

5. CONCLUSIONS

Museum Betawi is one of the tourist spots located in Zone A Setu Babakan, the museum displays historical objects and cultural heritage of the Betawi people. By having 3 (three) floors with divided into 3 galleries, namely, the 1st floor there is a Gallery of 8 Betawi Cultural Icons, the 2nd floor there is a Betawi House Gallery, and the 3rd floor there is a Betawi Bridal Gallery. Museum Betawi utilizes information technology to support their attractiveness. The information technology they use has 3 (three) indicators, namely, digital platforms, two-dimensional technology, and electronic devices. Thedigital platform used is a website that displays information about the Betawi museum, Google Form for online registration of visitors, and social media as their marketing and promotional tools. The two-dimensional technology used is a QR code for information access and visitor registration access. And the electronic devices used are Projectors that display visuals of traditional Betawi music and Touchscreen TV that display information about Betawi culinary, which are two electronic devices referred to as interactive projection vehicles. All of these technologies are implemented to provide an unforgettable experience for visitors and provide more detailed information about Betawi culture. The potential of the application of information technology can provide an interactive experience for tourists, assist in the management of tourist destination resources, and as a destination promotion. For the sustainability strategy in the application of information technology, Museum Betawi added an interactive projection vehicle in 2023, and for the future the museum has no plans to add information technology, but will focus more on maintaining existing information technology. The challenges faced by Betawi Museum in the application of information technology are information inaccuracies, damage to technological devices, and promotional media.

The researcher’s suggestion for the Betawi Museum manager is to develop the website again in adding more detailed information. Adding information technology for access to Setu Babakan mapping, so that visitors can find out the areas in Setu Babakan. Creating a private social media (not incorporated with Setu Babakan), with the aim of being more organized for promotion.

Suggestions for further research are to conduct an in-depth analysis of the experience of tourists in using Information Technology at the Betawi Museum, and understand the needs and preferences of tourists related to information technology at the Betawi Museum.

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