Effectiveness of the Sign System of Prambanan Temple, Indonesia

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Abstract

Prambanan Temple was built in 750-850 AD. It is the largest Hindu temple in Indonesia and is also a UNESCO World Heritage site. As a popular tourist destination, it has a high level of tourist visits. The temple has a unique sign system that guides those who visit which was particularly important during the Covid-19. However, it is not clear if this system is currently effective. This research examines its effectiveness during the period after the Covid-19.

It uses a case study approach with qualitative data gathering techniques. Observations and interviews were carried out to find out the benefits of the sign system for the visitors. Data were analyzed using descriptive analysis, interpretation, and assessment methods.

Findings show that the sign system is very important in in guiding the tourists i9n using the public space. It also shows that the sign system in the Prambanan Temple area was effective, but needed at improvements. The sign system implemented during the Covid-19 is no longer needed because Indonesia has successfully overcome the pandemic. It is thus concluded that the sign system is very important guide the visitors to the appropriate paths. A good sign system is a reflection of good services that can increase the number of tourists.

Keywords: Sign system, Prambanan Temple, Tourism, Visual Literacy,

Introduction

Prambanan is a Hindu temple complex. The word 'Prambanan' comes from the Sanskrit word 'parambrahma(n)', which means 'spirit of the universe', 'the absolute', and refers to a place of public worship, which can be used by both the Shiva and Buddhist devotees. (Gunawijaya, 2020). According to Patricia (2021), this temple was built during the Rakai Pikatan period around 856 AD. In 1991, the temple was recognized by the UNESCO as a cultural heritage site and became one of the grandest in Southeast Asia (Janah, Hartanti and Walaretina, 2023). For a long time, the temple has been used as a source of livelihood and as a spiritual orientation (Darma, 2020). It has attracted local 32,615 tourist visitors in 2018 and is therefore a popular tourist spot (Irawati, 2019).

During the COVID-19 pandemic, it experienced a decline of tourists due to the global economic crisis, as well as that in Indonesia (Anderson et al., 2020). In fact, many tourist

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attractions have experienced a decline in the visitor numbers, both local and foreign (Anggarini, 2021).

As to be expected, tourist visits require health protocols to be implemented (Hadi and Yulianto, 2021). This has been now implemented after the pandemic in 2023 through a Presidential Decree Number 17 of 2023 concerning the determination of the end of the COVID-19 (Arna Putri and Abdurahim, 2022). This change in status has also triggered an increase in the interest in local tourism and tourism in Indonesia (Yogyakarta et al., 2023). According to Kristanto & Putri (2021), the number of foreign tourist visits every year continues to significantly increase after the COVID-19. Indeed, this has led also to traffic jams. Kadarisman (2021) shows that interest in traveling after the pandemic holidays has increased tourism. These increased tourist numbers also require adjustments. One of them is tourist guides which involves the sign system. Therefore, Prambanan Temple is making efforts to improve the sign system to facilitate the tourists.

As Yenawine (1997) points out, a sign system should be easy to understand and visitors should be able to employ their visual literacy abilities. Indeed, a sign system is a marking system that is culturally appropriate according to the location where it is placed. Moreover, naming, and conveying brief information can also be in the form of rules or norms that are used and recognized in a particular place and can be understood by the visitors (Andrijanto, 2018). In designing a sign system thus, it is necessary to pay attention to four criteria: easy to see, easy to read, easy to understand and trustworthy (Sugiyanto and Marsudi, 2022).

According to Mohanty et al. (2016), there are several steps in designing a sign system. They are: data collection, analysis, concept, visualization, consultation and revision, expert validation, and the final product. In its design and placement, a sign system must be easily accessible to the visitors, easy to read, can be understood correctly, and the information is not misleading (Halim, 2018).

Previously, there has been research regarding the design of the sign systems at tourist attractions. For example, Sugiyanto and Marsudi (2022) examine the sign system design process and its application in the Sumber Gempong Rice Field Tourism. However, this is inadequate. In this context, this research examines the concept, design process, and placement of the sign system at the Prambanan Temple, Indonesia. It intends to show that the sign system design is an important process in ensuring a well-functioning sign system for the visitors.

Its aim is to investigate the effectiveness and informativeness of the sign system at the Prambanan Temple during the post-Covid-19 era. The research objectives are:

1. To identify the importance of implementing a robust signage system to prevent the visitors from making navigation errors.
2. To ascertain how the signage arrangements at historic sites like Prambanan Temple can enhance visitor experiences and minimize their confusion in navigating the area.

Theoretical Framework

There has been many theoretical interpretations of sign systems at temples. For example, Adawiyah & Setyanto (2021) produce a classification comprised of: sign board, identification sign, wayfinding sign, gibbon information boards and tourist maps, flyer Gibbon information and tourist maps, tourist posters and stickers. The aim of designing is alsways to create a sign system that can convey information accurately. If it is done for the tourists, it must have unique characteristics for them, and can make it easier for the visitors to find tourist spots. The design concept for the tritech informatics vocational school sign system by Nasir & Prayogi (2022) for example, emphasizes the impression of technology and IT to depict the characteristics of the Tritech Informatics Vocational School.

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A sign system could be interpreted using semiotics. According to Saussure (2011), semiotics study the sign science and processes its interpretation. In the public space context, the sign application or the semiotics components function as the communication tool among the visitors and the users. Barthes (1957), an expert of semiotics and literature criticism has given an insight into the sign culture. Its mitology concept explains how signs seem neutral in public spaces and can bring a complex cultural meaning. In the case of the Prambanan Temple, the sign system becomes a channel for delivering the cultural narrative and historical meaning to various audiences.

Lynch (1964) emphasize the importance of a clear and effective sign system in guiding an individual in a complex environment. He points out that the clarity and ability to understand the sign directly influences a visitors' spatial experience. In line with the semiotics theory, Peirce (2014) offers a conceptual framework to understand the multi-faceted communition planted in the sign system: the triadic trait of sing-icon, index, and symbol. This theoretical framework reveals the meaning in the temple sign system and assesses its effectiveness in delivering information and enrich the visitors' experience.

Sign System

Environmental graphic design involves graphics in the environment, including signs, notice boards, and building nameplates which are used to identify a location of an object expressed using two or three-dimensional media. Prameswari et al. (2022) have examined environmental graphic design at the Sam Poo Kong tourist attraction, Semarang City. They show that two-dimensional environmental graphic designs make it easier to display all parts of the Sam Poo Kong Temple and makes it easier for the tourists to find the facilities in the temple area even if they are in a simple form.

Such design must also provide information properly and correctly, and be easy for tourists to understand. They do not need to prioritize color or other supporting elements. However, in general, a foreign language sign system will make it easier for the international tourist to find locations. Sunarya, Dermawan and Amrullah (2016) add that other elements need to be considered, such as the selection of the writtten text according to religious and cultural factors as well as illustrations such as images, colors and design elements. In this connection, Fakhruddin, Sachari, & Haswanto (2019) have developed integrated graphic design in websites designed in such a way that the distinctive visual values of Javanese script can still be displayed with a contemporary touch. This makes them more informative and help people keep up with the times. According to Prameswari et al., (2022), ffectiveness of the sign system at Borobudur Temple during the Covid-19 period show that the sign system was effective in breaking up the visitor density.

As can be seen, design of a sign system is complex and is done according to the location where it is installed. Previous studies have discussed the design and use of numerous sign systems. However, no one has specifically analyzed a sign system and its influence in guiding visitor movements at any tourist attractions. In fact, the sign system of the Prambanan Temple functions as a complex game of symbols which represents cultural information, history and navigation. By integrating the above theoretical perspective, this research elaborates on the sign system at Prambanan Temple in a broader discourse about communications in public spaces.

Research Methodology

This research uses a qualitative research method with a case study approach. It looks at the Prambanan Temple in the special region of Yogyakarta, Indonesia. This temple was chosen because it is a sign that Madan was used as a place of worship by the Hindus. The research was conducted in August 2023. It determines the level of effectiveness and how informative the existing sign system design is, at the Prambanan Temple complex during the post-Covid-19 pandemic period.

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Data collection techniques included interviews, field observations, and documentation of sign systems in the Prambanan Temple Tourism Park area, as well as examination of literature related to sign systems. All thesign systems were observed directly and documented. Interviews were conducted with 10 visitors to Prambanan Temple in 19-20 August 2023. Bandur (2019) says the more specific the character of the sample, the fewer informants studied, the higher the quality of the discussion in the interview. Therefore, the the sample size was small.

Informant selection was based on the visitors who had been around the Prambanan Temple and would like to visit. These visitors have experinced the sign system at the temple area. The criteria for selecting respondents were visitors who had entered the temple area. Questions for the interview are designed to find out responses regarding the physical and cultural conditions of the Prambanan Temple, including the placement, completeness, and design of the sign system as well as its usefulness.

Literature study was employed to derive the meanings of the Temple as existed in the literature.

It employed three data analyses techniques: demographic analysis, analysis of the meanings of the sign system, and the effectiveness of the sign system. Data analysis according to Thuy (2017), plays an important role in the production of meaning to explain the sign system. Data analysis of this research was carried out using descriptive analysis, interpretation, and assessment (Soewardikoen, 2019).

The Case Study: Prambanan Temple

Prambanan Temple is the largest Hindu temple in Indonesia. It is a symbol of the history of human civilization because it represents a noble work. Based on data from the Shiva Graha Inscription, it has been built during the reign of Rakai Pikatan and Pramodhawardhani. The construction details are known from the inscriptions in 778 S or 856 AD (Dzulhidayat, 2022).

It has 3 courtyards divided by a surrounding fence. On page I, there are 16 temple groups, consisting of 3 main temples: Brahma Temple, Vishnu Temple, and the Shiva Temple. Temple details are as follows.

Three ancillary temples: Angsa Temple, Garuda Temple, and Nandi Temple
Two apit temples: North Apit and South Apit
Four Kelir Temples
Four Corner Temples and
Four Patok Temples.

Then on page II, it consists of 224 Perwara Temples, with details of the first row consisting of 68 temples, the second row consisting of 60 temples, the third row consisting of 52 temples, and the fourth row consisting of 44 temples.

Finally, on page III, there is no temple, only some gate structures and fences. Prambanan Temple is dedicated to the Tri Murti Gods, namely: Brahma, Vishnu, and Shiva. In the largest part of the temple, namely the Shiva Temple, there are 4 statues of the Shiva family, including Shiva Mahadewa, Agastya, Ganesha, and Durga Mahesa Sura Mardini. Apart from that, there are also statues of Lord Brahma and Lord Vishnu.

Findings and Discussion

Demographic analysis of the Prambanan Temple

The Prambanan Temple is on Jl. Jogja –Solo, Prambanan, Sleman-Yogyakarta, Indonesia (Dwiarti and Wibowo, 2018). It has a complex of 240 temple buildings. The Prambanan Temple complex began to be built during the reign of Rakai 74 Pikatan and has been inaugurated in 778 Saka (856 AD) during the reign of Rakai Kayuwangi. The year of the

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founding is based on the Siwagrha Inscription, which mentions the founding of a sacred building called Siwagrha (house of Shiva) and Siwalaya (place of Lord Shiva). This temple, which has the original name Siwagrha, is conceptualized to resemble Shiva's house, which follows the shape of the sacred mountain Mahameru, where the gods are believed to reside.

The temple is used for worshiping the Trimurti Gods (Shiva, Brahma, Vishnu). It has an architecture guided by the Hindu architectural tradition which follows the Wastusastra book. The floor plan of the temple follows the mandala pattern, that is centered inward. All parts of the temple complex follow the model of the universe according to the concept of Hindu cosmology, which is divided into several layers of domains, realms or places. According to Patricia (2021), the temple has experienced multiple collapses, both due to Mount Merapi erupting and tectonic earthquakes.

Fig. 1: The Prambanan Temple
Source: Author

After being named an international cultural heritage site by UNESCO, Prambanan receives many tourist visits. An important aspect in choosing a temple location is that it must be built close to a spring. This is following the book Manasara Silpasastra (Yusuf, Syarqiyah and Arrazaq, 2019). This is because there is a belief that the river is a holy place (Laksmi, 2017). Thus, this temple was built near two ancient rivers. One of the rivers even flows right under the temple complex. Another river flows to its East. As a result of the existence of these two rivers, it is estimated that previously there was a pool of water as deep as approximately fifteen meters in the southern part of the Shiva Temple complex.

Analysis of the Meaning of Sign Systems

Based on its information content, the sign system at the Prambanan Temple is grouped into five categories described in the following

Direction Sign

Directional signs provide direction information regarding the navigation of a place (Rizqullah and Swasty, 2019). Sign arrow Helvetica Parallel is a mark arrow that is commonly used to indicate a direction, such as left, right, or straight (Hutasoit and Putra, 2015). These signs are generally placed outdoors and in crowded places such as around parking lots, entrances, counters, and access roads to the Prambanan Temple area. The aim is to ensure that the visitors do not get lost when determining the path to the desired facility. In its application,

The Prambanan Temple Tourist Park uses two types of media to show directional signs: Signs made onboard media and signs made on floor media. Regarding the installation of signs

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on media boards, the free-standing technique is applied with the bottom of the pole attached to the floor. Poles and signs can be transported and moved as needed. Writing on the sign panel uses durable iron paint and the stickers are laminated.

Fig. 2: Directions
Source: Author

As shown in the figure 2, the design uses yellow as the basic color. Its writing uses Indonesian and English languages. The white arrow symbol shows the temple direction. Its image is not different from the design side and white arrow symbol used. Yellow means greatness. This analysis was based on Ristanto et al. (2020) who said that the community of Hindu-Bali believe that color symbolizes their God such as yellow for Mahadeva. Meanwhile, white symbolizes purity. This is based on the color meaning in the study of color meaning conducted by Karja (2021); white means purity, beginning, silence, clarity, absence, affection, sincerity, cleanliness, and no color. The combination of yellow and white also have contrast which makes it easy for the visitors to find and read it. The use of Indonesian and English languages in the sign system also enables the foreign tourists to understand the signs. According to Nackplad et al. (2021), a sign system that uses two languages are easier to be understood by the foreign tourists. The arrow symbol is put in many places in the right side adjusting to the typography. Placing the arrow in the direction sign using a board placed side by side in line with the typography makes it easier for the tourist to comprehend the information.

In seeing the effectiveness of using two languages (Indonesian and English) in the sign system at Prambanan Temmple, one of the interviewees said:

> *"The combination of Indonesian and English in the sign at Prambanan makes it easier to understand, especially for the tourist coming from overseas. This creates a friendly and inclusive environment for the international tourists."*
>
> (Personal communication, August 19)

This highlights the success of using two languages in improving the information accessibility for the foreign visitors, until optimizing the effectiveness of this sign system in this hisotical site. Additionally, it is placed on a panel. Directional signs are also made by making marks on the ground or floor, such as at the counter entrance.

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Fig. 3: Transportation Route Instructions
Source: Author

Design elements in the directional signs on land media, employ yellow straight arrows. This symbol shows the direction of the road that visitors must take. Meanwhile, in the Figure 3, the symbols used are only transportation frames. This symbol means that the road is a transportation road. When installing a sign system on the ground, symbols, and writing are usually combined. The yellow color used for the writing and arrows is used thus contrasting with the floor and can be seen by the visitors. The color concepts in the sign system is brighter or more contrasting. Thus it is easily recognized by the tourist visitors (Zamroni and Patria, 2019).

Rule Mark

According to Adzhar & Swasty (2019), regulatory signs are signs that have the function of providing information regarding prohibitions and suggestions regarding things that must be implemented and avoided while being in an area. This sign is applied in locations visited by many visitors to make it easy to know the regulations in the Prambanan Temple area. In practice, there are two types of regulatory signs: regulatory signs installed outside on boards and regulatory signs written on the floor. Regulatory signs are mounted on boards by techniques of sleeve ground mount-planted in the ground with one supporting pole-and free-standing on two poles.

Fig. 4: Prohibition Sign
Source: Author

Figure 4 contains several prohibitions on one board including, prohibitions from bringing pets, carrying sharp weapons, carrying illegal drugs, smoking, and playing with drones. This prohibition board has a dark base color, namely brown with a red cross over each symbol to convey information that this is prohibited. The sign installation technique uses freestanding with two supporting poles. There is also a sign using two languages that prohibits

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climbing the temple. The choice of red in the prohibition symbol strengthens the impression of the sign's command.

Fig. 5: Advise of Health Protocol
Source: Author

Figure 5 is a sign system that requires adjustments in the Prambanan Temple area. This is due to the change in the pandemic status which has been implemented in Indonesia. Yellow color is used for signs that provide alertness and appeal to visitors to obey the rules (Sugiyanto and Marsudi, 2022). The square geometric shape of the sign corresponds to its meaning as general information aimed at the visitors.

Orientation Mark
Orientation signs are signs used to provide an overview and navigation of the entire area of a place (Adzhar and Swasty, 2019). Orientation signs for navigation are shown in the location plan of the Prambanan Temple Tourist Park to provide information about the place. These have been created to make it easier for the visitors who want to explore the Prambanan Temple Tourist Park area. They are installed in busy places such as at entrances. The orientation sign is in the form of a landscape with a freestanding type, with a freestanding installation. Orientation signs contain detailed information and are intended to be read from a short distance at a time, and thus the font size used is not as large as the general signs. Rizqullah & Swasty (2019) say that the location map layout uses a typeface and font size that is easy to read at close range.

Fig. 6: Description of Roro Jonggrang Story (above) and Prambanan Temple (Below)
Source: Author

Interpretations of the Signs
Interpretive signs contain related information that helps visitors understand information at tourist attractions, usually information containing history, geography and culture. The

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interpretive signs outside are in the form of a landscape using the ground-mounted technique. The information, symbols, photos, and writing on the nameplate apply the 'print on material' technique. A white base has been applied to contrast the black text. According to Ismail (2008), installing interpretive signs has an impact on the visitor behavior after receiving information contained in the sign system in the tourist areas.

Fig. 7: Interpretation Sign of Prambanan Temple
Source: Author

Identification Marks

Identification signs function as a source of information to identify a place or building at a tourist location to allow the visitors to recognize the place or building (Hanifunisa and Swasty, 2020). Identification signs at the Prambanan Temple are installed at several points including prayer rooms, toilets, shuttle waiting areas, ticket sales and information centers. The identification marks are in the form of landscapes and portraits with the installation using the wall mount technique: attached to a wall or vertical plane. The sign panel uses cutting stickers which are laminated and thus they are durable. Yellow is used as the dominant base color. Bright colors aim to attract the attention of the tourists to the information provided (Septiningtyas and Soewardikoen, 2018).

Fig. 8: Identification Sign of Information Center
Source: Author

Visitor Density Level

In this research, visitor density is divided into three categories, namely high density, medium density, and no density. The high level of visitor density can be a basis for conceptualizing a sign system. High density does not necessarily make a sign system ineffective, because this can be influenced by other factors. The factor that causes high density can be caused by the iconicity of an area such as the area. At dense visitor points, sign systems can be installed that have striking colors and are located at several points to be easily accessible. This is following Kamal et al. (2010) who said that densely visited locations need more attention and a sign system to improve connectivity.

It is estimated that there are 240 large and small temples in the Prambanan Temple complex. However, only 18 temples hve been restored; the rest are piles of scattered stones. Three of the 8 main temples are called Trimurti ("three forms") temples, dedicated to the 3 highest Hindu gods: God Brahma the Creator, Vishnu the Preserver, and Shiva the Destroyer.

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The Shiva Temple in the middle is the largest building in the Prambanan Temple complex and has 5 rooms: East, South, West, North, and a main room in the middle of the temple. The eastern room is connected to the main room which contains a 3-meter-high Shiva Mahadewa statue. The northern room contains a statue of Durga Mahisasuramardini, Shiva's wife. This Durga statue is called Roro Jonggrang in local legend. Right in front of the Trimurti temple, there are 3 smaller temples for the vehicles or rides of these gods; the ox Nandi is Shiva's vehicle, the swan is Brahma's vehicle, and the Garuda is Vishnu's vehicle.

To get around the entire area, the facilities at Prambanan Temple are need to be complete and adequate. Starting from a large parking area, information boards, prayer rooms, toilets, guides, souvenir shops, places to eat, and photo spots are required. Souvenir shops can be found when one enters the temple area.

The Prambanan Temple has a high density in the main temple area, Garuda Mandala, Vishnu Mandala, Archaeological Museum, and Children's Garden. the entrance to the Prambanan Temple area has a medium density, The ticket counter, vehicle parking area, information center, toilets, and souvenir shop has no density.

Three levels of density were identified. They are then examined for the effectiveness of the sign system. Sign systems in high-density areas (red signs) are mostly prohibitions and identification signs. This area also contains several health protocol signs such as recommendations for maintaining distances and washing hands. The distance between each sign system is far from one another.

The entrance to the Prambanan Temple has a medium density and uses yellow signs. This area is a transition from the area outside the Prambanan Temple to the ticket counter and vehicle parking area. In this area, there is a sign system that shows the direction of the vehicle entry and other directions. The ticket counter area, vehicle parking, information center, toilets, and souvenir shops have a low density and uses green marks. Even though it has low density, this area has quite a lot of sign systems such as identification signs in toilets and information centers, directional signs in parking areas, and regulatory signs in several locations.

Table 1: The Classification of Sign System Problem
Source: Author

No	Location	Density Level	Problem	Recommended Solution
1	The Main Temple	High	Some *don't climb* Sign Systems have faded	It needs a routine maintenance carried out by the management
2	Garuda Mandala	High	The less suitable size of sign system	Designing the sign system size with consideration of installation location
3	Wisnu Mandala	High	The less suitable size of sign system	Designing the sign system size with consideration of installation location
4	Archeology Museum	High	The setting of sign system layout	Applying the installation based on the layout, lighting, and size
5	Kinder Garden	High	Shuttle lane sign system in the road faded and cannot be read	It needs a routine maintenance carried out by the management party
6	Ticket Counter Area	Medium	The limited number of sign system	It needs the procurement of system in ticket counter area
7	Vehicle Parking	Medium	The sign system of vehicle lane in the road cannot be read	It needs a routine maintenance carried out by the management party

High and medium-density areas have problems related to the sign systems. These problematic sign systems affect the quality of services provided by the management of the Prambanan Temple area. Poor service quality can have an impact on decreasing the number of

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tourists to the Prambanan Temple. The five points above are the points with the highest density. Overcrowding can also be caused by the lack of effective installation of the sign system which results in the information contained in the sign system not reaching the visitors. There needs to be maintenance on the sign system installed in the Prambanan Temple area thus it is effective in breaking up the density of the visitors.

Effectiveness of the Sign System

Sign systems have an important role at tourist locations in providing information regarding the tourist attraction, as well as as a guide. Thus, the tourists who travel do not get lost. Nasir & Prayogi (2022) say that sign systems have a crucial role in improving the quality of visitor travel. In the post-COVID-19 pandemic period, the sign system used must adapt to the current situation and thus it remains informative in conveying information to the visitors.

The sign system at the Prambanan Temple, can be either effective or less effective. This couod be related to density. The effectiveness of the sign system can be asssessed at the map of the Prambanan Temple area, such as visitor route signs, shuttle pick-up points, and directional signs for the vital places. Taking into account the fact that the temple complex area occupies an area of 39.8 hectares, this makes it difficult to find the required area. Therefore, a sign system in the form of visitor route instructions and a map of the Prambanan Temple area are necessary. The relatively long distance between the temples also makes visitors choose to use shuttle transportation as a solution to get around the temple. In fact, a sign system that shows directions to vital places is also effective because it is a necessity for every visitor.

Another vital place is toilet as the facility for biological needs because the activity such as defecating is an emergency activity that cannot be avoided (Wicaksana and Rachman, 2018). Besides, there are other viral places such as praying rooms. It is a vital place because Indonesia has 86,7% muslims from its total population. The effectiveness of this sign system can be felt when the visitors are helped with it and the ifnormation is delivered well.

Based on the explanation from the visotors, these signs help very much as mentioned by the informant as follows:

> *" The sign system around the toilet area and praying room really healps. The clear information makes it easier to find the facility without any difficulty especially for the foreign tourists."*
>
> (Personal communication, August 19)

This testimony confirms that the sign system at Prambanan makes a positive contribution in guiding the tourists to the vital places such as toilets and praying rooms. The sign system is also effective in other spots such as the information center and some signs of the prohibition to hike. The information center is quite effective for the visitors with minimum information about the temple, but with the rapid technology development, this information center is now obsolete with the presence of technology such as Google (Mukhtar, Hendri and Soni, 2021). This technology eases the visitors because it can be accessed quickly and wherever, especially if the location is far from the information center.

A quite effective sign system is the sign climbing prohibition. This sign is a warning and is located at the sides of the temple. Indeed, its impact can be minimized by placing it at a strategic place. Behind its function, there is a sign system of which, the presence does not follow the recent condition such as the health protocol sign because Indonesia has succeeded in shifting from the pandemic. The presence of this sign can cause the visitors to worry and feel uncomfortable because of the memory of the Covid-19 Virus.

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Another visitor conveyed their concern or vigilance because of this condition as follows:

> " I feel a bit worry seeing the signs of health protocol that still exist. It is better to update them in accordance with the present situation and not causing unnecessary anxiety among the visitors."

(Personal communication, Agust 19)

This interview response highlights the importance of the sign system update, especially related to health to maintain the comfort and safety of the visitors in the middle of the global change. The sign system for maximum visitor limits located in front of each temple is also ineffective. This is because the choice of blue as the dominant color does not represent a form of warning, and the level of visitor awareness is also deemed inadequate to comply with these rules. Moreover, it still requires supervision from Prambanan Temple. In several corners of the Temple, sign systems are also found that are no longer suitable for use as a sign providing information because the information contained therein is not conveyed to the visitors.

According to Nurhayati, Ummah and Shobron (2018), there have been extreme climate changes in Indonesia in recent years. This is one of the factors causing damage to several sign systems apart from the lack of maintenance. The results of the analysis show that an effective sign system is one that contains the information needed by the visitors. Apart from that, there is a factor in conveying information well which is also an indicator that a sign system can be said to be effective. At several points, the Prambanan Temple area already has an effective sign system, but there are still some that are less effective because several related indicators have not been fulfilled.

According to Nasir & Prayogi (2022), sign systems have a big role in the tourist experience. This sign system still requires effective analysis then its existence follows the aim of conveying the information needed by the visitors. The findings show that the the sign system can be either effective or less effective. Effective sign systems convey vital information to the visitors such as the location of toilets, prayer rooms, and shuttle stops. This is due to the size of Prambanan Temple which reaches 39.8 hectares. A sign system for the vital places is needed so that the visitors can find their destinations quickly without getting lost. Sign systems such as lighting centers fall into the less effective category in this modern era, this is because the presence of only one lighting center in the vast Prambanan Temple area will make it quite difficult for visitors to reach.

Moreover, with advances in search engine technology such as Google, information can be accessed anywhere and more quickly. A sign system can also be classified as less effective if the information contained is no longer relevant to the current situation. Until August 2023, the Prambanan Temple area still had several sign systems containing COVID-19 health protocols. This is no longer relevant considering that the status of the pandemic in Indonesia has come to an end. The health protocol sign system can also increase visitors' concerns regarding the COVID-19 virus. Apart from that, there is a sign system that has been damaged, and thus the information from the sign system cannot be conveyed to the visitors properly. This is caused by changes in the extreme weather conditions in Indonesia.

Conclusions

In evaluating the effectiveness of the sign system at Prambanan Temple, it was found that he sign system has given benefits to the visitors thoroughly. However, the increase of quality and quantity is required especially in some spots around the Prambanan Temple. The level of visitors' density in high category, medium category, and without density requires more optimal adjustment in providing the information and guidance around the temple complex. Effectiveness level of the sign system is seen in the visitors' ease in finding the vital facilities

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such as the toilets, praying rooms and other important places. Nevertheless, the maintenance and improvement of the sign system needs to be done to assure the optimal service quality.

As a reflection of a good service, the sign system at Prambanan temple also reflects power in giving a clear direction, especially in the prohibition sign and warning sign at a number of locations. The weakness that needs to be considered is the sustainability of the sign system related to the present condition, especially related to health protocol after the transition from the pandemic. Adjustment and update of the sign system become critical to avoid unnecessary anxiety among the visitors. In terms of the level of effectiveness and weakness, the management of the Prambanan Temple needs to prioritize maintenance, improvement, and adjustment of the sign system periodically in line with the visitors' needs and the developments. Then, the Prambanan Temple will remain friendly, informative, and fun as a tourism destination.

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