

## DESIGN THEORY AS A VISUAL COMMUNICATION ON SIGN SYSTEM IN TAMAN MARGASATWA RAGUNAN

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Enter : 10-04-2023, revision: 11-05-2023, accepted for publication : 15-08-2023

### ABSTRACT

*A sign system is a collection of individual signs designed to identify or direct information, for example, about traffic or a complex or group of buildings. In another sense, the sign system also guides those who need it. The type of communication used in a sign system is visual communication or through sight. To communicate information and messages with an excellent visual sign system, there are guidelines and essential elements, namely design theory, must be learned. Design theory is one of the crucial factors in making a sign system. The sign system in a zoo must be designed and cared for properly to provide precise and directional information to get around in a huge area. However, the sign system in Taman Margasatwa Ragunan still needs to have the design quality to visualize good communication because it is not based on design theory. As a result, the use of the sign system becomes less effective, even though a sign system has an essential function, especially in large tourist spots such as Taman Margasatwa Ragunan, which is to direct, inform, and give directions on the area you want to go to. By following the correct design theory, the sign system can maximize its use as a visual communication medium in providing informative and easy-to-understand instructions for visitors at Taman Margasatwa Ragunan.*

**Keywords:** Design, sign system, communication, taman margasatwa ragunan

### 1. PREFACE

Humans, as social beings, need to communicate. Communication can be verbal or visual. Visual communication uses the essential elements of visual language as its main strength in conveying communication. Along with the times, people's lifestyles have become more practical and efficient, for example, with a sign system, as one of the most important aspects of a place. A sign system is a graphic symbol and visual representation, a medium of interaction between humans and public spaces. (Id & Utoyo, 2020) found that the type of communication the sign system uses is visual communication, namely through sight using depiction media that are only legible by the senses of sight, incorporating art, symbols, typography, designs, illustrations, and colors in their coating. A sign system is a collection of individual signs designed to identify or direct information, for example, about traffic or a complex or group of buildings. Sign systems have a substantial functional impact and can help people to find the goals to be sought; therefore, in designing a sign system, studies are needed to be able to determine the design and location of a sign so that it can help people to be able to find their respective goals. (Ambarwati et al., n.d.)

The existence of a sign system cannot be separated and is very much needed in daily human life because a sign system will facilitate information in public spaces. The sign system in a zoo must be considered and managed correctly to provide precise and directional information to get around in a vast area. (Huang et al., 2017) One of the main aspects in this regard is the design. With the right plan and a good design based on design theory, the visual communication provided will arrive at the destination. As a tourist spot with many visitors, it should have an easily understood sign system. However, the sign system at Taman Margasatwa Ragunan has yet

to reach the standard for visual communication media because there is still a lot of confusion arising from the sign system at Taman Margasatwa Ragunan. As a result, using the sign system in Taman Margasatwa Ragunan could be more optimal. Meanwhile, compared to other tourist attractions and zoos these days, in the era of modern technology, the sign systems are way more exciting and creative but also can be a guide that is still informative and easy to understand.

To manifest a sign system that can be an excellent visual communication medium, it is necessary to plan and evaluate it by following design theory. The design has principles and elements that can form a solution to every problem. By following existing design theory, the creation of the sign system has an essential function in facilitating communication between the user and the message to be conveyed so that the viewing audience can understand the intent of visual communication through the design of the sign system. One of the main functions of creating the sign system is to provide guidance or direction to the user. If this is paid attention to properly, a sign system becomes better, and the message in the sign system is not conveyed; this will cause a lot of mistakes in a place.

Based on the written background, the problem formulation is how a sign system in Taman Margasatwa Ragunan can become a suitable medium of visual communication using existing design theory. The goal is to create a sign system that is functional, easy to understand, and professional so that problems do not arise due to a lack of knowledge and unclear information in the sign system. In addition, if the design of the sign system is well communicated, visitors can feel satisfaction when visiting Taman Margasatwa Ragunan to maximize their time on a tour.

## **2. RESEARCH METHOD**

This study uses qualitative methods by collecting data through observation, interviews, and literature; In this study, the authors used the method of observation, discussions, and literature study. At the observation stage, the authors collected data through sign system documentation at Taman Margasatwa Ragunan. During the observation stage, the author visited the Taman Margasatwa Ragunan and collected data in the form of a sign system documentation at Taman Margasatwa Ragunan. In addition, the author conducted an interview stage with visitor respondents, officers, and employees at Taman Margasatwa Ragunan. In the last step, the authors conducted a library study to strengthen the data and compile an analysis of the problems based on existing data and theories.

### **Observation**

Observation is a data collection technique carried out through an observation accompanied by recordings of the state or behavior of the target object. At the observation stage, the author visited Taman Margasatwa Ragunan and collected data in the form of documentation of the appearance and condition of the sign system at Taman Margasatwa Ragunan.

### **Interviews**

Interviews are a data collection technique through a one-way verbal question-and-answer process by asking questions and collecting interviewees' answers. In the interview stage, the authors interviewed several respondents at Taman Margasatwa Ragunan, including visitors, officers, and employees at Taman Margasatwa Ragunan.

### **Literature**

The literature study method is a series of activities related to collecting library data, reading and taking notes, and managing research materials. Data collection is done by seeking information

through documents, photos, images, and electronic articles that can support the research process. At this stage, the authors collect supporting data from various sources related to theory in design, sign systems, and visual communication to strengthen the analysis of this study.

### 3. RESULT AND DISCUSSION

The results of this study are compiled based on the results of observations, interviews, and literature study:

#### Sign System in Taman Margasatwa Ragunan

Based on my observations at Taman Margasatwa Ragunan, I found various sign systems. There are map directions, animal directions, and directions to facilities in the Taman Margasatwa Ragunan, I have collected documentation from various forms of instructions there, in the form of photos. However, there I needed help with following the instructions. From my documentation, as shown in the picture, the signboard looks dull because it needs to be maintained; it looks unreadable, uninformative, and confusing. Some of the instructions in English were illegible because of the disguising colors, even some of the animals that were no longer there were only covered with black duct tape/pilox. This condition makes the sign system in Ragunan look very unprofessional.

#### Figure 1

*Sign System in Taman Margasatwa Ragunan*



And also, as seen in the picture, the signboard design at Taman Margasatwa Ragunan is inconsistent with different shapes, fonts, colors, and illustrations or photos; of course, it is very contrary to design theory.

#### Figure 2

*Map in Taman Margasatwa Ragunan*



Respondents were male and female visitors to Ragunan Wildlife Park, aged 20 to 40 years. "I had difficulty understanding the clues because it wasn't clear when I was told to go straight, I couldn't find any other clues about the animal I wanted to look for, so it made me return to the initial clues." From the interviews, the main problem lies in unclear directions and maps, which result in many visitors from within and outside Jakarta needing clarification with the directions, placement of animals, public facilities, and even getting lost on their way home. "We don't understand the directions. Usually, we ask the officers we find around here to find out the place and direction." The visitors admitted that they asked officers more often than they saw the sign system in Taman Margasatwa Ragunan. A bad sign system also has an impact on the time visitors are running out in finding their way from one place to another.

### Sign System

A sign system consists of signs, symbols, and meanings resulting from the interaction between movements and their use in a particular context. Sign systems aim to help communicate messages or information more effectively and clearly to users or audiences. The primary function of the sign system is to help the audience understand the news or information that the designer wants to convey through the design work. Another sign system function is to make it easier for the audience to recognize a particular brand or product. The sign system is one of the critical aspects of graphic design related to how signs or symbols are used in design work.

The function of the sign system is also related to aesthetic aspects of design work. Designers use attractive and aesthetic signs or symbols so that the design work has high artistic value and can attract the audience's attention. (Soedewi, 2019) found that in making a sign system, ergonomic factors humans must be considered, and these factors include; Visibility must be visible to visitors; therefore, a contrasting color is needed with the surrounding environment to catch the eye and see clearly. Readability, must be legible by visitors. Therefore, bold characters are significant and contrast well with the background signage to keep it easy to read. Noticeability, should be easy to spot, though installed in crowded places. Using contrasting colors and lines or visual elements can excite visitors' attention and be easily recognized. Legibility, the level of readability of letters, is also a must noticed. Use typeface sans serif bold and avoid serif fonts or decorative so that the letters can be easy for visitors to read.

### Figure 3

*The Example of Sign System*



### The Definition of Design

In general, The definition of design is the process of creating plans or concepts to produce a desired product, system, or environment. Design involves using creativity, technology, and knowledge to solve problems and meet user needs. Meanwhile, graphic design is a design branch that focuses on creating visual communication using elements such as images, typography, colors, and shapes.

Graphic design makes promotional materials, advertisements, and other visual communications. Design theory is closely related to design principles and elements in design that can be used as a medium for conveying communication. (Negm & Tantawi, 2015)

## Design Principles

In applying design principles, a combination of knowledge regarding conceptualization, typography, images, visualization, and formal elements is required as a vocabulary in forms and structures. In making a design that attracts the attention of the viewer, of course, you must follow design principles; (Andriani, 2019)

Balance, Balance is stability created by an even visual distribution on each axis and throughout the composition of each element. Balanced design results in harmony, but Balance is one principle that must work with other regulations.

Unity, Unity means where all the graphic elements in a design are interconnected and form a larger whole. When put together, each graphic element looks like they belong together. The delivery of Unity can also affect the reader's reading and compositional harmony, and Unity can provide a comfortable feeling for the reader's eyes in seeing visuals.

Rhythm, Rhythm is a pattern in the repetition of elements that aim to produce Rhythm. This repetition of Rhythm causes the reader's eye to move or look around the page. The Rhythm in the design is also important because the Rhythm within this Rhythm creates a flow that flows from one part to the next.

The emphasis, In design principles, power serves to focus the reader's attention or focus on visual attention. The force must be balanced by paying attention to the elements in the seven compositions. This emphasis also makes how the reader's eye begins to read the existing visuals; placing visual elements in certain positions makes it easy for the reader to see them. Also, pointing elements such as arrows can lead the reader's eye to the desired place.

Visual Hierarchy, The visual hierarchy serves to organize information so that it can guide the audience in receiving that information. Visual elements are arranged based on emphasis or emphasis. Emphasis is the arrangement of visual elements according to importance, emphasizing some aspects over others, making some features predominate.

## Design Theory on Sign System

Design theory on sign systems covers several aspects, including using design elements such as symbols and typography. Using the correct design elements can help designers create a sign system that is effective and easily understood by users or audiences. The first design element in a sign system is the symbol. Symbols are visual forms that represent specific ideas, concepts, or objects. Using appropriate and relevant symbols to the message you want to convey can help your audience understand the letter more easily and quickly. (Wirasasmita & Swasty, 2020)

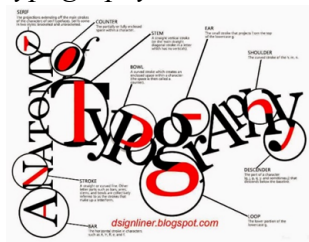
## Figure 4

### *Symbols*



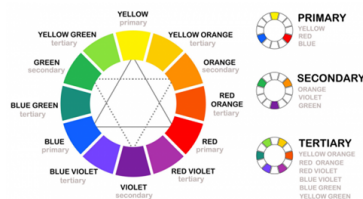
Apart from symbols, another essential design element in sign systems is typography. Typography is the art and technique of typesetting, punctuation, and spacing in design work. Appropriate and consistent typography can help the audience understand the hierarchy of information and messages that the designer wants to convey. Font selection should be based on design and concept considerations involving user or visitor surveys of visibility and readability. The choice of typography for the sign is typography that has a readability level which is good with easily recognizable letterforms, large body letters, and wide normal stroke and character. (Calori C et al., 2015)

**Figure 5**  
*Typography*



Other design elements that are also important in a sign system are color, shape, and texture. The combination of using these design elements can help create a sign system that is strong and easy to remember by users or audiences. If we use color theory, the design will blend in more efficiently and be visible visually, unlike the Taman Margasatwa Ragunan sign system, where the colors appear less prominent and blend in with the surrounding environment. This proves the absence or lack of a color theory which is one of the essential design elements used in Taman Margasatwa Ragunan sign system. (Ade Santoso et al., 2013)

**Figure 6**  
*Color Theory*



The shape is a graphic design component that is where the starting point of the line meets the endpoint of the line. Of course, the result of these lines meeting forms a plane. This field, both standing as the main element and part of (accent) communication, plays a significant role in giving a nuance of meaningful communication in a design. Different and consistent forms in a sign system can result in design consistency and clarity with the visuals displayed. Meanwhile, Texture is a graphic design component that is a display / characteristic / illustration / representation of the properties of a surface.

## Design Function on The Sign System

With various existing design elements, the design of the sign system has an essential function in facilitating communication between users or audiences with the message to be conveyed. The design function of the sign system is to provide clear, easy-to-understand information and

effectively give statements to users or audiences so that the viewing audience can understand the purpose of visual communication through the design of the sign system.

In addition, the design of the sign system also functions as a tool to improve user security and safety. For example, a sign system installed on a highway can help motorists know the right direction and the allowed speed limit. The design of the sign system also serves as a tool to enhance the user or audience experience. Sign systems that use exciting and fun design elements can help users or audiences feel more engaged with the conveyed message and make their experience more positive.

### **Sign System as Visual Communication**

A sign system is a visual communication medium to help users or audiences understand information or directions in a physical environment. To communicate with visuals, elements are needed to support the design. The components in the design can be used individually or can also be combined. (Dwi Waluyanto, n.d.)

**Figure 7**

*Sign System Design in a Zoo*



As seen from the picture above, several sign systems at this zoo have different shapes and styles but can stand out and be read clearly. Symbols and typography are very informative and easy to understand. Compared to the sign system at Taman Margasatwa Ragunan, the illustrations, symbols, and fonts are different, the shapes could be more consistent, and the colors blend in with the leaves; they don't stand out, so they are hard to find. Meanwhile, it can be seen that other sign systems have designs that follow design theory, starting from the same shape, readable writing, easy-to-understand symbols, and colors that stand out compared to green leaves.

Based on the design theory described, the sign system as a visual communication medium conveyed by the two zoo sign systems can be appropriately represented. Visitors who see it can easily understand and follow the directions given. In addition, they also provide texture to the sign system so that the design looks more prominent and does not seem flat. This condition helps the audience more easily find the existence of the sign system.

As a visual communication medium, sign systems have several advantages compared to verbal or written communication media. First, the sign system can deliver messages directly and instantly. And second, sign systems can convey messages more effectively when users are limited in time or space. For example, users can quickly find emergency evacuation routes through signs posted on walls.

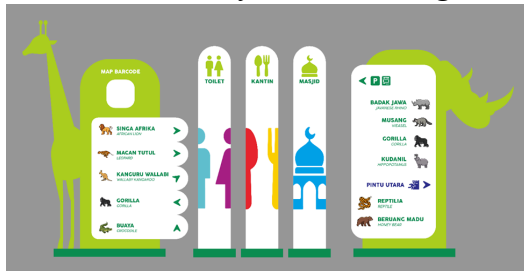


### Rough Sketch of Alternative Design for Taman Margasatwa Ragunan Sign System

After going through the discussion stage, I tried to redesign the sign system based on the targets and goals of Taman Margasatwa Ragunan. The goal is to improve the sign system in Taman Margasatwa Ragunan following the existing design theory; the rough sketch results are like this. This sketch has a modification of the initial shape of the animal with a simplification/simplification, which is very suitable for redesigning the Taman Margasatwa Ragunan sign system. Apart from simplicity, the board's shape has a new characteristic, unlike a general council. It can be a non-boring clue with a variety of animals, giving the impression of being 'fun' and playful for children.

**Figure 8**

*Alternative Sketch for Taman Margasatwa Ragunan*



## 4. CONCLUSIONS AND RECOMMENDATIONS

Sign systems are visual communication media that are very effective in helping users or audiences understand information or directions in a physical environment. Sign systems have several advantages compared to verbal or written communication media, such as the ability to convey messages directly and instantly and improve user security and safety. Designers must consider these aspects in designing an effective and efficient sign system. The design of the sign system has an essential function in facilitating communication between users or audiences to convey messages.

After going through the discussion stage, it can be concluded that based on existing data, the sign system design at Taman Margasatwa Ragunan cannot yet be an effective visual communication medium because it is not by existing design theory. The use of design theory is beneficial in making sign systems. Designers need to consider all of these functions in designing a sign system to become an effective and efficient sign. With design theory, sign systems will be easier to understand when looking for directions or finding a place. Therefore, design theory is needed because its use can be helpful in various aspects. Moreover, a sign system is needed in multiple locations, so to become an excellent visual communication medium, a sign system must follow the correct design theory. A promising sign system is a medium for communicating directed information by considering harmony in shape, color, font, graphic elements, and size and being easy to understand and read.

### Acknowledgement

Researchers thanked participants who had provided the necessary data in the study.

### REFERENCE

Ambarwati, M., Bangun, D. A. N., & Muchliyanto, M. (2022, December). Perancangan Media Komunikasi Visual Sign System Pada Kawasan dan Gedung Creative Center Kota Bekasi.



- In Proceeding Seminar Nasional Teknologi Cetak Dan Media Kreatif (Tetamekraf)*, 1(2), 69-76. <http://prosiding-old.pnj.ac.id/index.php/TETramekraf/article/view/4609>
- Calori, C., & Vanden-Eynden, D. (2015). *Signage and Wayfinding Design: A Complete Guide To Creating Environmental Graphic Design Systems*. John Wiley & Sons.
- Desain Komunikasi Visual, J., & Dwi Waluyanto, H. (n.d.). *Komik sebagai media komunikasi visual pembelajaran (heru dwi waluyanto) komik sebagai media komunikasi visual pembelajaran*. <http://www.petra.ac.id/~puslit/journals/dir.php?DepartmentID=DKV>
- Huang, H., Lin, N. C., Barrett, L., Springer, D., Wang, H. C., Pomplun, M., & Yu, L. F. (2017). Automatic optimization of wayfinding design. *IEEE transactions on visualization and computer graphics*, 24(9), 2516-2530. <https://ieeexplore.ieee.org/abstract/document/8063899/>
- Negm, E., & Tantawi, P. (2015). Investigating the impact of visual design on consumers' perceptions towards advertising. *International Journal of Scientific and Research Publications*, 5(4), 1-9. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=5647a61fee3c44c8bac82652b86dac8100e721c9>
- Santoso, M. A., Hartanto, D. D., & Sylvia, M. (2013). Perancangan Redesain Sign System Universitas Kristen Petra Surabaya. *Jurnal DKV Adiwarna*, 1(2), 9. <http://publication.petra.ac.id/index.php/dkv/article/view/552>
- Saragih, L. A., & Zulkifli, Z. (2019). Analisis Kerajinan Souvenir Diorama Berbahan Limbah Pada Pengrajin Dikraf Berdasarkan Prinsip-Prinsip Desain. *Gorga: Jurnal Seni Rupa*, 8(1), 272-278. <https://jurnal.unimed.ac.id/2012/index.php/gorga/article/view/13639>
- Soedewi, S. (2019). Identitas Visual pada Signage System di Pusat Perbelanjaan Metro Indah Mall. *Waca Cipta Ruang*, 5(2), 379-387. <https://ojs.unikom.ac.id/index.php/wacaciptaruang/article/view/2265>
- Utoyo, A. W. (2020). Analisis komunikasi visual pada poster sebagai media komunikasi mendorong jarak sosial di Jakarta saat epidemi Covid 19. *LUGAS Jurnal Komunikasi*, 4(1), 35-42. <http://ojs.stiami.ac.id/index.php/lugas/article/download/939/510>
- Wirasmita, D. N., & Swasty, W. (2020). Redesain Sign System Pada Kawasan Obyek Wisata Yang Informatif Sebagai Usaha Untuk Membangun Citra Tempat. *Jurnal Bahasa Rupa*, 4(1), 17-27. <https://jurnal.instiki.ac.id/index.php/jurnalbahasarupa/article/view/590>