

The Influence of Museum Interior Design on Human Behavior

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ABSTRACT

Tourism development is essentially an effort to develop and utilize tourist objects and attractions that are realized, among others, in the form of beautiful natural wealth, diversity of flora and fauna, a plurality of cultural traditions and arts, and ancient relics. One of the cultural assets that become a tourist attraction is the museum. The museum is a legal institution helpful in preserving, maintaining, and providing knowledge about historical records to the general public. One of them is the Bukuran Cluster Museum located in Surakarta City and is one of the supporting museums of the Sangiran Museum, which is rich in human fossils. The museum's interior's technical requirements include the collection's arrangement, including exhibition layout, lighting, labels, air conditions, audiovisual equipment, paintings/dioramas, security, and circulation. Thus, this study is an analysis to determine the influence of the interior design of the Bukuran Cluster Museum on human behavior through the physical condition of the museum, as mentioned by the Directorate of Museums.

KEYWORDS

Tourism Development
Museum Interior Design
Human Behavior

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1. Introduction

The Republic of Indonesia is a country that has abundant natural resource potential, namely biodiversity and historical/cultural relics. Indonesia is also known for its culturally and historically diverse tourism potential. The development of tourism is essentially an effort to develop and utilize tourist objects and attractions that are realized, among others, in the form of beautiful natural wealth, diversity of flora and fauna, a plurality of cultural traditions and arts, and ancient relics (Reichenberger 2021), (Richards 2020). The development of the tourism sector is considered vital because it is an effective tool for economic improvement in society. Tourism development is expected to create jobs and develop areas that have the potential to become tourist attractions.

One of the cultural assets that become a tourist attraction is the museum. Museums are part of the social institutions in society because museums are used as a vehicle to provide knowledge, education, and development to each community or public (Navarrete 2019). In addition, the museum is a legit body in collecting, rescuing, and receiving artifacts (Achiam and Sølberg 2017), (Stephen 2001). From this understanding, it can be concluded that a museum is a legal institution that is useful for preserving, maintaining, and providing knowledge about historical records to the general public.

Museum as a cultural and tourist product is one of the cultural tourist attractions for Solo city tourism. The museum exhibits not only historical relics but also educational facilities for visitors through particular forms of interpretation and programs that reflect the museum's existence. One of the museums in Solo City is the Bukuran Cluster Museum. The museum is a government museum because the local government finances it. For all its purposes, an annual budget is provided by the department or local government that organizes it. This museum is one of the supporting museums of the Sangiran Museum, which is rich in human fossils (Purnomo, Pratisto, and Putra 2018). Most of the findings of ancient human remains of the type *Homo erectus* from Sangiran were found at this site. Bukuran Cluster Museum facilities include a museum, a rest area, and parking. The theme of this two-floor Museum is Human Evolution.

Collectible objects owned by a museum must be exhibited so the general public can appreciate them. Therefore, exhibitions are one way to communicate their collections to the public. It is necessary to make a good arrangement, and a storyline will be exhibited so that this exhibition can attract visitors' attention.

The collection arrangement also needs to consider technical requirements, including exhibition layout, lighting, labels, air conditions, audiovisual equipment, paintings/dioramas, security, and visitor traffic. Regarding the flow and circulation of visitors, visitor traffic planning is an essential factor in the design of a showroom (Sumarno and Indarto, 2018). Poor showroom layout can lead to congestion, crowded spaces, confusion, and disorientation, and eventually, visitors will lose interest in collectibles. This situation can be avoided by providing sufficient space between the exhibits and placing important or favorite displays in the main circulation path. So that in this study, the author analyzed the physical condition of the Bukuran Cluster Museum to determine the influence of the interior design of the Bukuran Cluster Museum on human behavior.

2. Metode

Research methods are the primary means of achieving goals and determining answers to the problems posed. The research uses a literature study method, namely data collection by studying references - book references, articles, and internet browsing- and literature reviews related to system analysis. With search techniques, namely online / internet data searching using several journals and articles as a reference. Internet searching is a data collection technique through the help of technology in the form of tools/search engines on the internet where all information of various eras is available. Internet searching is effortless to help researchers find data where the speed, completeness, and availability of data from multiple years are available. Searching for data on the internet can be done by searching, browsing, surfing, or downloading.

3. Results and Discussion

The Bukuran Cluster Museum is located in Bukuran Village, Kalijambe District. The distance from the Bukuran Cluster Museum to Sragen City is about 27.5 km (51 minutes). The museum is a government museum because the local government finances it. For all its purposes, an annual budget is provided by the department or local government that organizes it. This museum is one of the supporting museums of the Sangiran Museum, which is rich in human fossils. Most of the findings of ancient human remains of the type *Homo erectus* from Sangiran were found at this site. Bukuran Cluster Museum facilities include a museum, a rest area, and parking. The theme of this 2 (two) floor Museum is Human Evolution.

The ancient man museum has a slick, interactive, modern presentation of exhibits. Strolling inside the museum is fun, with an interactive exhibition layout so the visitors will not get bored. The place is quite spacious with adequate parking. The entrance fee is also relatively cheap. Suitable for tourist attractions with children traveling on vacation while studying.

Circulation is one of the crucial factors in interior design (Kilmer and Kilmer 2014). The design of the museum circulation ushers in the movement of visitors to enjoy the collections in the museum. Some factors to note in the circulation and interior of the showroom are achievement, the relationship between path and space, and the shape of the circulation space (Ching 1996). Achievement is the path taken to approach/get to the building. The form of the circulation room is more important in the interior of the building, which can accommodate visitors' movements when they go around, stop for a while, rest, or enjoy something they find interesting. The situation in detail can be explained as follows:

3.1. Building Atmosphere

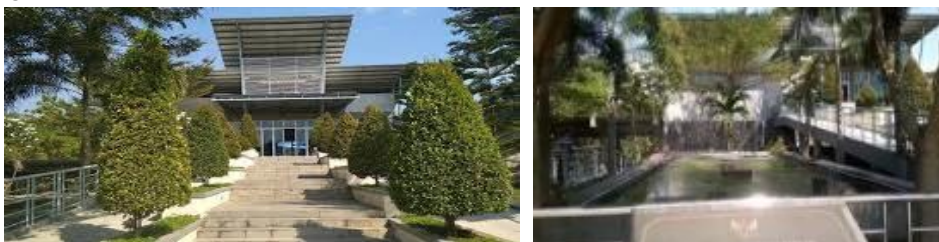


Fig. 1. The Naturalness and Beauty of the Museum Building

This museum is still natural and beautiful. Its position in the countryside makes the atmosphere more natural. Visitors can find shady trees around the museum, a pool, and a walking path. Here also, visitors

can calm down by enjoying the cool air and scenery around the museum so that in addition to traveling and studying, it can also calm their minds there.



Fig. 2. Modern Design of Buildings

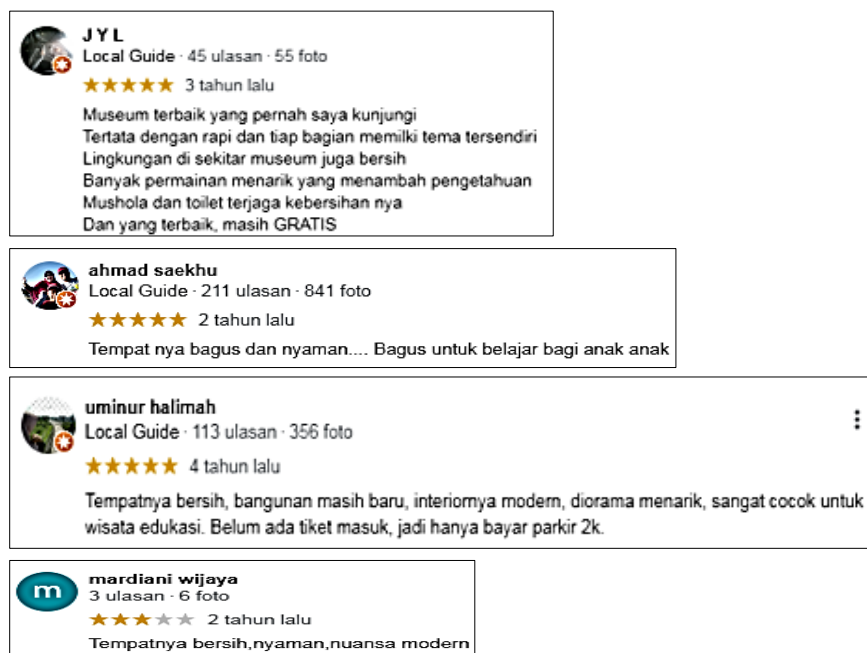


Fig. 3. Visitor Responses

All rooms are designed in a modern style that is comfortable and clean so that visitors will feel at home. The visitors' responses are on the website as evidence of the actual testimony of this museum.



Fig. 4. Futuristic Design at the Museum

The museum is very futuristic. Futuristic here applies a minimalist style design that is classy and interesting to introduce to children. Futuristic is a very unusual and modern appearance, as if it were a possession of a future time, and is a foreshadowing of the future (Sunarmi 2021), (Sunarmi 2021). A good exhibition can make the visitors not feel tired.

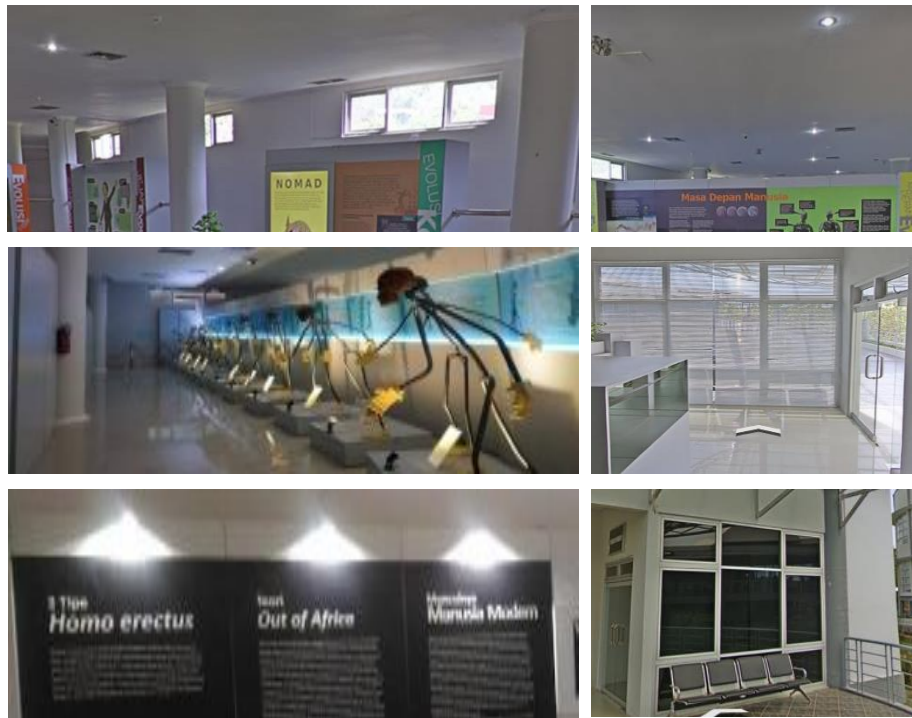


Fig. 5. Interior Elements

The lighting in the museum must also be good. In this museum, it is indicated by natural light and artificial light. Natural light is emitted through a large glass in the form of doors and windows on the front and back of buildings, and the architectural windows of buildings are excellent and renewable. The lighting inside the museum must, of course, follow its function. According to the museum's function requirements, the light color of the lamp that can be used is 'cool,' 'medium,' or 'warm.' Lighting inside a museum must also be able to illuminate the surface on which the object is installed without causing glare effects that cause discomfort or reduce observational ability. The lamps used are fluorescent lamps which are evenly distributed lighting in the room, and lamp lighting in works with down lighting and backlighting techniques (Frick, Ardiyanto, and Darmawan 2008; Satwiko 2004).

Air is a basic need in everyday life that cannot be separated from daily human activities. Air will also affect the comfort of a room or building. Therefore, obtaining the freshness of indoor air can be done in two ways, namely through natural living and artificial living. Natural living is the living obtained from the openings of doors and windows. Artificial heating is a ventilation system that uses air conditioning to meet the needs of temperature, humidity, and airflow and maintain clean and healthy air quality (Satwiko 2004). Prohibitions in museums include carrying large backpacks (suitcases), climbing or touching collections, smoking, using flashes, leaning on anything, shouting or noisy, eating or drinking, and rushing.



Fig. 6. Bukuran Cluster Plan



Fig. 7. Display Room Interior Design

Museum Bukuran has an interior design of 2 floors connected in one building. Glass baffles can give the impression of an ample space (Sumarno and Indarto 2018). The first time entering the display room, called the diversity room, visitors will find an art installation in the form of a mirror cube. The appearance of this installation art certainly attracts the attention of visitors. In addition to enjoying the room's beauty, you can also capture the moment by taking pictures. In the middle of the room, there is a collection of cubes consisting of 4 sides, so visitors will go around to see and learn the theories presented in this space without getting bored.

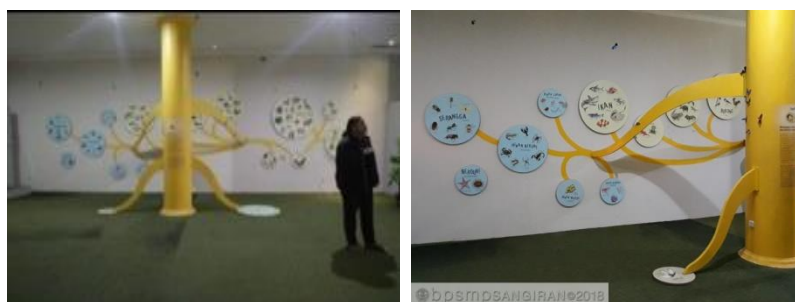


Fig. 8. Innovative walls

When entering the interior space, visitors will be invited to get to know the theory of natural selection and knowledge about living things by following the exhibition display arranged following the walls of the museum. This room is designed for children with pictures of animals affixed to the wall so that the message conveyed is easy to understand. Here there is one of the columns that not only support the building but also serve as interactive media installation art for children. In a large enough room, children are free to go around and play, which is notable because the children are pretty active in moving. On the

floor, also use carpets so that children are comfortable to play and anticipate if the child falls. In this room, there are columns that not only support the building but also function as interactive media for children in the form of installations.

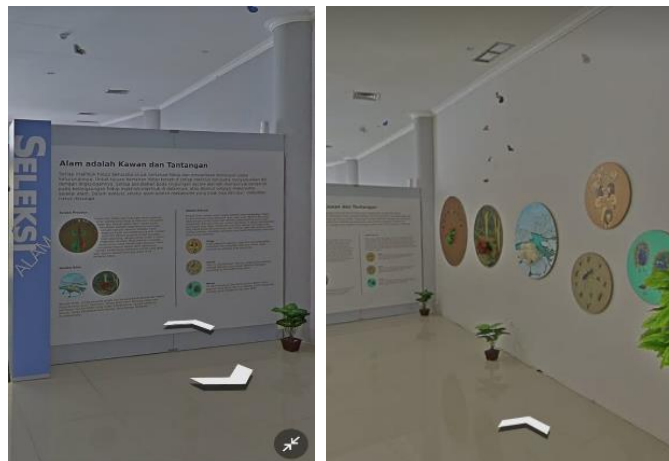


Fig. 9. Natural Selection Room

In this natural selection room, visitors will be invited to get to know the theory of natural selection in the form of banners and images of natural selection affixed to the wall. It is attached not too high so that children can reach out to it to see and learn. This makes it possible for children to capture their moments within the exhibition.

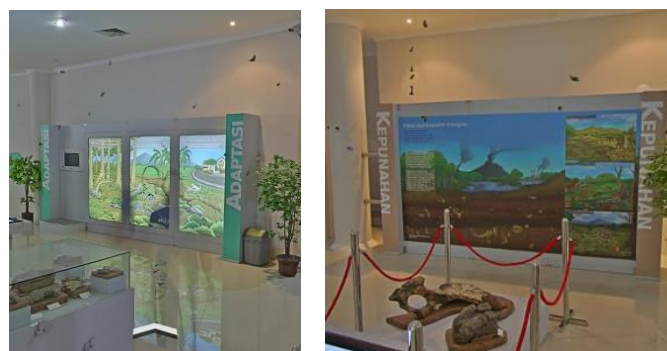


Fig. 10. Short films and interactive games

In this room, visitors are invited to get to know knowledge about the adaptation of living things. Visitors can play with games designed in such a way as an introduction to the material they want to convey so that visitors can learn information more easily. Short films and interactive games provided on-site are also a memorable experience for visitors.

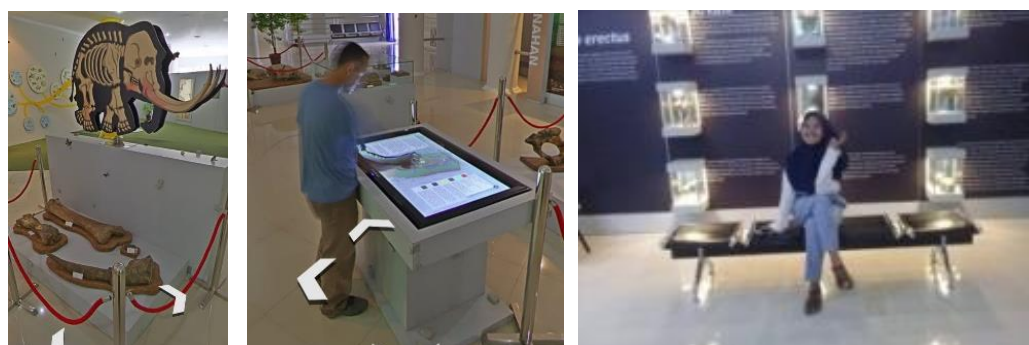


Fig. 11. Replicas and Fossils

In the space of this size site, there are replicas and fossils of the size site. There is a barrier to the destroyed fossils so that visitors know they should not touch them. Visitors can distinguish between the

original discovery fossil and the only replica. The original fossil will be placed on a glass/pedestal/vitrine display case to avoid dust and air humidity because the original discovery fossil is easily fragile. At the same time, the replica one only has a visitor barrier. There is lighting that illuminates a fossil so that the shape of the fossil is visible. Information is also available next to the fossils in writing and computer audiovisuals, so visitors will find it easier to understand fossils. A seat and take-a-picture space are in front of these fossils, and a fossil background is displayed.

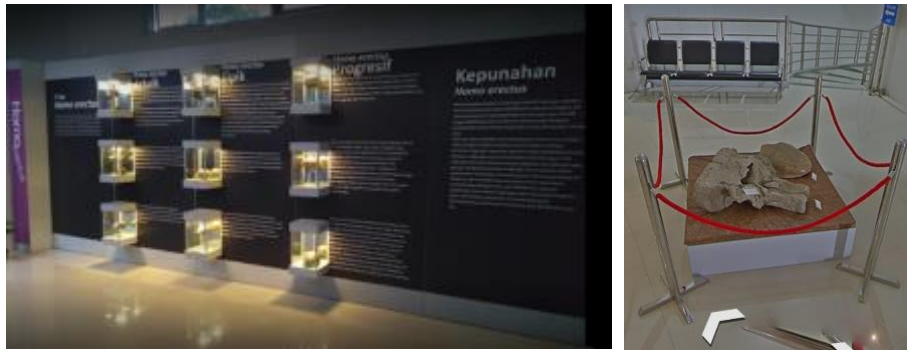


Fig. 12. Display fossils and their explanation.

Fossils are ancient objects that are old, including hundreds of millions of years old. Of course, the potential for damage is quite immense. Materials in the form of stones categorized as strong collectibles must still be treated to minimize damage. For collections in the form of stones, the primary way to keep them from being damaged is to maintain the temperature of the storage area. Museum managers keep the stone at a fixed temperature. One of them is so that the stone is not mossy so that the museum room is air-conditioned.

Meanwhile, fossils will be cleaned using a brush. To do this, it certainly needs thoroughness. Because every part must be ensured to be clean; furthermore, if damage is found, moldy or potentially damaged parts will be coated with a mixture of acetone liquid and special glue to make them stronger and more durable.



Fig. 13. Diorama of Cognitive Evolution

In this space, visitors can see the development of human culture triggered by cognitive delusion in the last room on the 1st floor of the museum. This last room also introduces visitors to the application of the theory of evolution in the field of genetics as *Artificial Evolution*. In this room, posters are on the wall as a medium for visitor interaction about the theory of evolution. There is also a table designed to depict the evolution of life as life develops in the form of replicas, and there is one chair for visitors if they want to know the story of evolution through computer media.



Fig. 14. Relics of the Ancestors

In addition, in this room, a collection of items given a visitor line is a relic of ancestors during the development of their time. This room also has interactive media for visitors on the panel. Here visitors can take papers to fill in opinions or suggestions about the museum into a glass box provided.



Fig. 15. Homo Erectus Diorama Installation

Then there is a diorama in the room containing replicas of *homo erectus* and its cultural products. Replica, this ancient human sculpture, is made as close as possible to the original in size, texture & skin color, and also the fur so that visitors get an idea and can imagine. This replica is protected by the large glass so that visitors know that it should not be touched and should not approach it so that nothing untoward happens that can damage the replica.

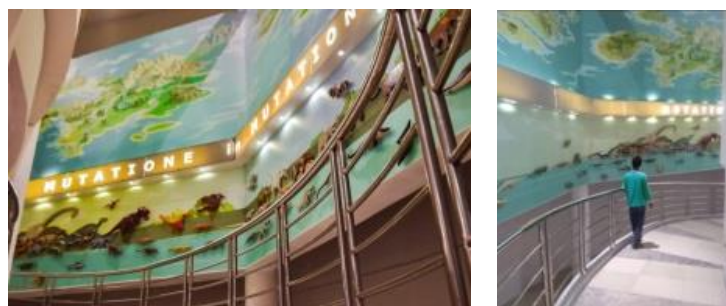


Fig. 16. Stairs leading to the downstairs

After going around in the upper room, the visitors are to join a detour staircase to go downstairs. This detour staircase has an art installation in the form of geological and biological earth formation motion on the side wall called the *Mutatione in Mutations Installation*. This art is depicted through several slightly prominent animal forms so that the message is easier to convey. This floor is in the form of ramps, making it easier for visitors to pass through it rather than the shape of a staircase.

Furthermore, a big room contains infographics and videos about *Homo erectus* and its sites spread worldwide, including Indonesia. Then visitors are also introduced to the distribution of the Malay-Melanesian language family, which forms the Indonesian language, and other islands in Southeast Asia and Oceania. The information is applied to the *wall display* illuminated on the poster panel. To understand

the shape of the replica available in the museum, visitors must understand the theory provided on the poster panel before seeing the replica.

In this room, four depots complete with monitors & headsets will explain the series of evolutionary events. All such material is presented popularly and attractively through graphic and interactive visuals. In the early part, various species diversity is presented on earth, how the adaptation of a species of living things works, and the process of natural selection. Inside this depot, some chairs are available for visitors who do not stand and relax more when listening to the history delivered by audiovisuals.



Fig. 17. Fossil Replicas of Ancient Humans

The lower floor of the Bukuran Cluster Museum also displays evidence of ancient human fossil relics (replicas) that have been found. Not only fossils from the Sangiran Site but fossils of ancient humans from paleoanthropological sites worldwide. About 12 fossil prints of human skulls are presented for visitors to recognize and compare the stages of human physical development. Downstairs, visitors are invited to learn more about the findings of human remains from all corners of the world. It's about the latest technologies in genetics and biology in creating better species than ever. Lighting in this area also adds to the modern impression of the museum design.



Fig. 18. Visitor interaction with replicas

This replica is made of an aluminum body, and the skull replica is made of fiber which uses *fiberglass* resin as the primary material. Resins and fiberglass are synthetic chemicals that, due to their nature, are very suitable for use to make replicas. Fiber material has many advantages, some of which are strong, lightweight, and easy to finish. This Replica Head can invite visitors to capture moments through photos when interacting with the skull by touching it or shaking hands.



Fig. 19. Visitor Circulation Path

The visitor path is designed so that visitors know the next step after visitors from exhibition 1 to the next exhibition. The path is displayed as an arrangement of exhibition panels and directions in signposts. After touring the museum, it will certainly make visitors feel tired so that the path of visitors on the way in and out is in the form of a ramped floor that displays a design that is friendly to various groups passing through it, even wheelchair users. The material used in this visitor path in anti-slip floor tiles will make visitors and wheelchair users comfortable because it will not make visitors slip easily.

4. Conclusions

Museum Manusia Purba Klaster Bukuran has a slick, interactive, modern exhibition presentation. The Bukuran Cluster Museum contains theories of the evolution of communicative and interactive influencing factors. Audiovisual facilities and dioramas support information media to distribute knowledge to visitors so that visitors can learn information more easily. The step setting and circulation of the showroom are well arranged to determine the movement of visitors. Thus, in exploring the gallery, visitors do not get bored; it can be concluded that the layout and form of the exhibition affect the behavior of museum visitors in it, which the sociology of design can influence human behavior.

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