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# THE ROLE OF MUSEUM AND SENSORY DESIGN OF REBUILDING PLACE IN MUSEOLOGY

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### *Abstract*

It is becoming increasingly difficult to ignore the impact of global warming and armed conflicts towards a catastrophic human heritage. These situations require the museum to review its role as an institution in collecting, preserving and communicating our cultural inheritance to the society. Meantime, the growth population of people with visual disability around the world will enquire issues such human inequality in accessing built environment and intellectual accessibility in viewing the national treasures. This paper seeks to address the following issues; 1) to identify the role of museum in today's society especially in Malaysia in rebuilding place for the inclusivity of the public; and 2) to explore the potential of sensory design in museology. Method applied was only based on observation and literature review. The paper aims to initiate the key concept that links between 'sensory design' and 'museology' in the context of sustainable development of cultural and heritage hence, rebuilding place. The findings are intended to be used as a framework in developing a tool that provide an equalization of opportunities for persons with disabilities to appreciate arts, culture and heritage in the built environment.



**Keywords:** Sensory design, museum, visually impaired, heritage, rebuilding place.

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# 1. Introduction

In 2009, a movie entitled 2012 was released. It is an epic science fiction film that portrayed the catastrophic of world due to the extreme natural disaster. This paper, however, is not going to discuss the movie, instead, was attracted to one of the scenes where selected articles of value, invaluable artefacts as well as animals are moved into arks. The scene has given an impression that when human civilisation is threatened with a destruction, the world's treasures that were previously probably only stored in the museum should not be neglected. It is undeniable the scene was just part of a creator's imagination, a fiction. However, considering the facts that lately, global warming has been a serious threat to the earth and its living things, therefore, it is becoming increasingly difficult to ignore a similar destruction could happen in reality. In the context of museology, most of the time, scholars are encouraged to think on sustainability of our cultural and heritage. However, we, sometimes, put priority to keep the 'past' (intangible and tangible cultural heritage) for a future generation, but, forgotten that the 'present' is still in needs. This paper is interested to further discuss the latter part of the issue and the 'present' is referring to the inclusivity of people with visual limitation in museology.

## 1.1. Background of Museum

Museum or *Mouseion* in Greek means the seat of Muses. It is a temple dedicated to the Muses during ancient time. It is believed that the first organised museum was the Alexandria in Egypt. In classical time, Alexandria Museum was a temple that kept the importance collection of books, art and craftworks as well as a meeting point for scholars from different countries such Ptolemy and others (Edson & Dean, 1994). The early part of museum concentrated on the educational purpose until the destruction of Alexandria museum. It was then after a lengthened period of museology dormancy, the museum returned to its establishment. The collections, however, at the beginning are more towards societal-centric rather than human-centred (Edson & Dean, 1994). It is only after the sixteenth century the focus has been shifted to the latter approach. Today, the debate on the role of museum is increasingly getting the attention of scholars.

Not only is that, the method of communication between the collections and the visitors, developing from time to time. Back in 17th to 18th century, the visitors had a freedom to explore the object of collection. It was hands-on exhibition where visitors were allowed to touch the collection. It was until the 20th century, the scenario has changed. The visitors were no longer permitted to handle the objects by themselves, instead, the objects were encased in glass cases (Howes, 2014). Only in the 21st century, the sensory in museology becoming a demand in the community. This scenario is influenced by the function and definition of the museum itself.

## 1.2. Outline of structure

This paper has been divided into three sections. The first part deals with the background of the research. The second part will discuss on the addressed issues and finally, will be the conclusion.

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## 2. Problem Statement

In general, International Council of Museum (ICOM) previously described museum as a public constitution that converse the value of human legacy in the frame of "education and enjoyment" (ICOM, 2018). However, ICOM later has invited the committees, stakeholders or even public to rethink and revise the meaning of 'museum' to a more comprehensive definition by considering factors such complexity of 21st century responsibilities and commitment of museum and their challenge and vision for the future (ICOM, 2018). Therefore, museum should not be viewed as a non-negligible entity due to its role in the evolvement in cultural and heritage sustainability, hence, rebuilding the place.

The rebuilding of museum should also consider item ten in the 2030 Agenda for Sustainable Development Goals (SDGs) by the United Nation Development Program. SDGs highlighted that inequalities within and among countries need to be reduced. In the context of Malaysia, based on the report in Washing the Tigers: Addressing Discrimination And Inequality In Malaysia by the Equal Right Trust (ERT) and Tenaganita (2012), Malaysia is still plugged by issues of discrimination against the disabled people. The context of discrimination includes the physical and intellectual accessibility (Padzi, 2014; Jamaluddin & Abdul Kadir, 2012). In most cases, the awareness is there but the implementations are still lacking (Kamarudin, Hashim, Mahmood, Muhamad Ariff, & Wan Ismail, 2012; Minhat, Abdullah, Idrus, & Keikhosrokiani, 2017). This has involved most of public buildings including museum. This situation is seen as a drawback to Malaysia because cultural and heritage is a niche segment in Malaysia tourism industry.

## 3. Research Questions

The research is derived based on the following research questions. The questions were outlined based on the problem statements:

- What is the role of museum today in relation to rebuilding a place that is social inclusive?
- How to promote social inclusion through museum design especially that involves visitors with visual disabilities?
- What are the application and elements that influence sensory design in museology?
- What is the effect of having sensory design in the museum towards visitors?

## 4. Purpose of the Study

This paper seeks to address the following issues; 1) to identify the role of museum in today's society especially in Malaysia in rebuilding place for the inclusivity of the public; and 2) to explore the potential of sensory design in museology. The paper aims to initiate the key concept that links between 'sensory design' and 'museology' in the context of sustainable development of cultural and heritage hence, rebuilding place.

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## 5. Research Methods

Data collection was gathered from observation and literature review. The research employed content analysis technique to abstract descriptions from literatures in order to address research questions. The review was focusing on these three-phrase searching; 1) the role of museum; 2) sensory design in museology; and 3) visually impaired visitors in museum. This has been implemented using online database including Science Direct, Wiley On-Line Library, Scopus, Google, as well as through book. The review involved local and international case study, though, the literature from Malaysia is limited.

Observation was conducted at selected local museums in Kuala Lumpur. It was based on nonparticipant and unstructured observation technique. In this study, the method is reviewed as preliminary observation to provide an overview of display technique applied in local museum. Data was documented using note taking and photography.

## 6. Findings

The findings of research are discussed based on two outlined objectives. The first part will describe the role of museum whereas second part will focus on the sensory design in museology

### 6.1. The role of museum

The results obtained from the preliminary analysis of literature review are presented in Table 1. The role of museum in general can be disseminated into five contexts (see Table 1).

**Table 01.** The role of museum

| Source | Context |
|---|---|
| Ahmad, Abbas, Mohd, & Mohd., (2013); International Council of Museum (2018); Baccaglini (2018); Hetherington (2000) as cited in Argyropoulos, & Kanari (2015); Edson & Dean (1994); "Department of Museum Malaysia" (n.d.) | Collecting and preserving material heritage |
| Ahmad et al. (2013); Argyropoulos, & Kanari (2015); Brown & Mairesse (2018); Cameron & Neilson (2014); Baccaglini (2018); Edson & Dean (1994), "Department of Museum Malaysia" (n.d.); Candlin (2003); Ng (2014) | source of knowledge, spread knowledge, pedagogic institution |
| Ahmad et al. (2013); Argyropoulos & Kanari (2015); MyTourismData. (2019); Ambrose & Paine (2006) | Agents of economic |
| Argyropoulos & Kanari (2015); Ahmad et al. (2013) | Audience –centred spaces, community meeting space, social enterprise |
| Argyropoulos & Kanari (2015); Keogh & Mollers (2015) | agents of change and development |

This paper emphasises more on rebuilding a place in the context of social inclusion. In 21st century, museum is urged to act as an agent of change (Argyropoulos & Kanari, 2015; Keogh & Mollers, 2015; Brown & Mairesse, 2018). Museum is encouraged to actively explore issues related to social exclusion.

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This includes accessibility affairs of a non-traditional crowd, which disabled people are part of the list (International Council of Museums (ICOM), 2016). The idea was initially embarked by Canadian Duncan Cameron in 1960's (in cited in Brown & Mairesse, 2018). In Malaysia, the role of museum in promoting inclusivity especially in intellectual accessibility is considered very limited (Mothiravally, Ang, Baloch, Kulampallil, & Geetha, 2014). Observation and literature in the context of Malaysia has shown that the current setting is more ocular centric, which is considered to discriminate the visually impaired people (Refer Figure 1). Yet, based on the World Health Organization (2018), there are more than 2 billion visually impaired or blind people in the world.

Observation at some of the museums found that braille signage or tactile display is hardly provided. If there is, the contents are usually for physical accessibility rather than to enhance knowledge regarding the collection. In order to have a greater positive impact on social inclusion, Sandell (2003) urges the museum to play more direct role which includes a display method. Museum is also suggested to be a platform of discussion and a mediator to communicate the information and create awareness to the public. Not only that, museum needs to be aware that visually impaired people are heterogeneous. Some of them come to the museum not for the collections, but to socialise with people. Hence, with this condition, designers and stakeholders might need to reconsider their space accommodation to fulfil its role as a community space (Argyropoulos & Kanari, 2015; Ahmad et al., 2013). This has to be included at integral stage rather than afterthought solution.

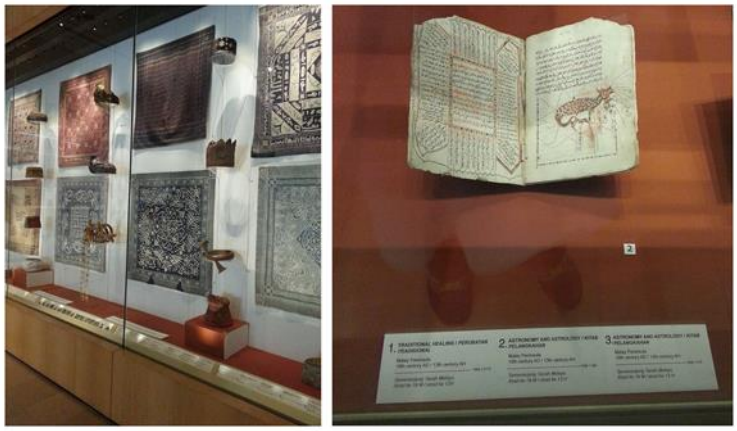

**Figure 01.** Collection are kept in the glass case (*Left)*, Absent of Braille text in display (*Right*)

### 6.2. Sensory Design in Museology

The word 'sensory', in general, reflects the responsiveness of physical senses ("Sensory", 2019). There are three aspects of sensory system which include its information, the sensorial bi-organ and the various mental phenomena resulted from it. Human sensory receptor is divided into five senses; i) visual sense, ii) auditory sense, iii) tactile sense, iv) taste sense and v) olfactory sense. There are cases where perception of information is overlapping, hence, stimulate more than one senses at a time. This phenomenon is known as synaesthesia. Today's architecture apparently is susceptible to ocular centrism. This is supported by hierarchy of human information source describes by Rachel with visual sense receive 83%, auditory sense 11%, smell sense 3.5%, tactile 1.5% and taste 1% (Xin, 2017). In the context of built environment, the hegemony of vision in the senses can lead to a social exclusion. Pallasmaa (2005) in his

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book The Eyes of the Skin describes this situation as *detachment, isolation and exteriority*. This is definitely a disadvantage point for a visually impaired people as well as others who rely more on other senses than visual. In order to rebuild the environment that provide social inclusion; therefore, the ocular centric orientation can be neutralized by manipulating the function of visual cortex inside the brain. This is supported by Amer Amedi, a brain scientist from the Hebrew University, which highlighted a possibility to retrieve information from a missing sense using input from alternative sense (Cell Press, 2014).

In the context of museology, tactile stimulation in display has been practiced since 17th century (Howes, 2014; Howes, Clarke, Macpherson, Best, & Cox, 2018). A limited target audience provides exclusive engagement between museum's visitor and collection. This method has triggered a significant difference between early and a latter part of museum development. Howes (2014) highlighted that, the previous scholars pointed out four reasons of positive impact of having tactile engagement with the object; 1) *tactile sense allow the handler to learn more about the object than just rely on the visual sense*; 2) *it is for aesthetic appreciation*;3) *a sensation of intimacy with the original creators*; 4) *healing purposes*. The next period of museum development has seen that hands-on approach was decimate from a display context. There were two reasons for the changes. The first one was due to fragility of artefacts concerning the tactile engagement and the second was a demotion in sense of touch by the audience (Howes, 2014). The 21st century, however, shows a revival of hands-on trend in public museum with children's and science museum being the apprentice. It is only that the tactile engagement on the collectible's artefacts are limited and rarely permitted (Howes, 2014; Vaz, Fernandes, & Veiga, 2018). In Malaysia, sensory design in museology has been translated in the form of interactive display. However, it is still bounded by the idea which Pallasmaa(2005) describes as 'vision-centered interpretation of knowledge'. Figure 2 shows some of the interactive display at museum in Malaysia that apply this paradigm.

**Figure 02.** Interactive display in museum in Malaysia

Rebuilding an exhibition space that is sensory oriented will create a sensation in visitor's experience (Reden, 2015; Xin, 2017; Handa & Dairoku, 2010) and it is already in trend. But, to achieve a social inclusion by adding the value required by the visually impaired visitors will be more challenging and complex (Hayhoe, 2014). Candlin (2003) shows that using 'touch' as a medium of interaction between visually impaired visitors and collections in a museum can be tokenism. Candlin (2003) added that the ignorance of museum with the fact that visually impaired people are heterogeneous group, lead to a misconception in designing a method of display. Visitors might also expose to a misinterpretation of

artefacts if the word choice in audio description or in verbal presentation by the docent is not carefully filtered according to the visually impaired vocabulary. Thus, Fuller and Watkins (2010) urge to include visually impaired people in the design team to avoid of misconception in tactile exhibit. They also emphasise that the inclusion of tactile elements should not be an afterthought event. Previous studies also found that implementing sensory in museum display is not only provide benefit to the target group but create a universal approach in a museum display (Vaz, Fernandes, & Veiga, 2018; Fuller & Watkins, 2010).

## 7. Conclusion

This paper concludes that one of major roles of museum in today's society is to provide an inclusive place for all group of people that seek for its knowledge and services as per define in its definition. Museum is no longer a place to just keep the invaluable cultural heritage (International Council of Museums (ICOM), 2018), yet, it creates a platform for the suppressed group combating for their right through its collection and activities; physical as well as intellectual accessibility. In doing so, museum is urged to play its role as an agent of changes and development aggressively. The present study, however, makes several noteworthy contributions in terms of sensory application in the museum. First, sensory in museology is relevant and it is in trend. Secondly, the effectiveness of sensory element in museum design is influenced by the information source receive in visitor's sensory system. Finally, the monopoly of visual sense in knowledge transmission within museology is considered a form of discrimination to a visitor who has visual limitation. The research suggests these factors to be included into consideration when rebuilding a place that promotes social inclusion. The current investigation, however, was limited by several ways. First, limitation in terms of type and number of reviewed literatures, hence, the findings is not meant to be generalised. Secondly, a discussion on the five senses in sensory design dominated by issues on visual sense and tactile sense whereas auditory sense, taste and olfactory in museology is not properly address in this paper. Further research in this field regarding these senses would be great help in creating more alternatives contribution towards sensory design in museology.

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