| Title | [課題研究報告書] Digital museum transformation and its potential for renewing visitors' experience: A construal-level-theory perspective ——Take analysis among Fukui Dinosaur Museum (digital exhibition) as an example |
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# Abstract

The development of social media and portable equipment provided by modern technology has brought about changes in the form of the behavior of visiting which have gradually become the subject of tourism research. While existing studies have explored the attraction and potential economic value of digital applications in venues such as art museums. From a macro perspective, some researchers have explored the positive impact on the visiting experience of traditional natural science museums that have experimented with digital projects. What's more, few researchers have explored in depth the positive impact on the visitors of some traditional natural science museums that have made attempts to digitize their exhibitions, especially in terms of how the content of the exhibitions can complement and enhance existing ones. In this study, a text mining analysis, a questionnaire, and a semi-constructive interview was generated to examine the two purposes of this research.

The first chapter introduces the definition of traditional museums, the characteristics of digital museums, and a theoretical description of the construal-level theory, laying the foundation for the discussion that follows.

The introduction to traditional museums consists of two parts. The first part will focus on the special characteristics that traditional museums possess. According to the definition of museums and distinguishing them from current digital museums, the functions of museums (traditional museums) encompass many aspects, in terms of the use of exhibits, including the investigation and study of collections, preservation and display, etc. The museum, as the holder and conservator of these collections, has the obligation to respect, protect and present them to the public. Whereas natural/cultural heritage, part of which is already been protected in its current location, is threatened by weathering, war, erosion, etc. Under the purpose of better dissemination and preservation, major economies have started to take measures to record and preserve collections with digital technology.

However, with the impact of the Covid global pandemic, digital exhibits show potential of which could break through geographical and travel restrictions and transform the museum industry that continues depression in the current situation. The second part will provide a broader perspective on the dilemmas faced by traditional museums. And its relationship with society and technology, which will be discussed in Chapter 1.5.

The issues and discussions that may result from digital museums consist of two main parts, one related to technology and the other to social concerns and the updating of relevant legal regulations. Firstly, digital technology (VR for example) is used and developed as a prerequisite for more practical applications such as manufacturing, medicine, tourism, etc. through its application in virtual gaming environments. The content of natural science museums is considered suitable for digital technology development because of the special characteristics of their collections, i.e., rich knowledge storage, potential for application development, and long-term development measures or investments that can create a demonstration effect and establish the

museum brand, which is conducive to the dissemination of exhibits and the influence of the museum.

  Although the maintenance of facilities on site introduces the participation of the civil partitioner when the digital museum can be an opportunity to expand the participation of the citizen participation to jointly develop the natural/cultural heritage and share it with citizens who was passionate and concerned. It is worth to study since when these applications are developed, in civil tech research indicate that people who could help handle the complex data are mostly non-professionals, which means civil participation would effectively reduce the cost and economic pressure of museum industry. Although the digital museum industry is still in the experimental stage of development and seems to have a choice between implementation and non-implementation. But without further experimentation, the results of museum-led digitization of resources may be unduly influenced by competing products developed by film and game companies to draw away the attention they deserve. In this case, the public will be more inclined to choose a higher quality finished product, and loss of trust in the brand will occur. Second, museums allow qualified developers or companies to complete development projects in their place. With no oversight mechanism, this authorization may become a representative of the caregiver's interests, resulting in a product that is not sufficiently attractive.

  In conclusion, the question of whether digital exhibits in natural science and history museums could generate a positive impact on the visitor experience worth for further investigation. At the same time, the number of mature examples of such exhibits is still very limited, so much so that the traditional way of visiting museums is still the mainstream of the museum experience. As a result of this investigation into the prevalence and development of digital exhibits, it is interesting to see what barriers exist on the developer side of existing digital exhibits, and what aspects of the existing visitor experience limit visitors. Since the spread of digital museums may bring certain benefits and risks to museums, it is worth discussing whether this approach is in line with the traditional obligations of museums as institutions of public welfare. This is one of the two main questions of this paper.

Key word: Digital Museum, digital transformation, VR, Intellectual property, construal level theory