Evaluation of Local Online Exhibition Practice under the Guidance of the Model of Analysis of Online Exhibition: A Case Study

Bingqiao Zhu*

Faculty of Foreign Studies, Beijing Language and Culture University, Beijing, 10083, China
zhubingqiao1999@189.cn

Abstract: Due to the widespread application of the World Wide Web (WWW) and virtual reality (VR), online exhibition has become a popular choice among museums, especially after the COVID-19 pandemic struck the industry. The evaluation and analysis of online/virtual exhibitions conducted by previous research studies were abundant. However, the online exhibition held by local and small-scale museums needs further research. Therefore, the study took the online exhibition of the National Exhibition of Outstanding Works of Calligraphy and Seal-cutting launched by the Tianjin Art Museum, a relatively small and local museum, as an example. Using the "Model of Analysis of Online Exhibitions", it looked at the online exhibition from three dimensions, namely, design of interaction, content, and degree of correspondence. The evaluation directed by the observation methodology found that the exhibition's interaction design was limited, while faithfully representing the physical one and having a high level of correspondence. Through the analysis, the study aimed to reflect on local practices and inspire better planning of online exhibitions in the future.

Keywords: Online Exhibition, Model of Analysis of Online Exhibitions, Local Museum, National Exhibition of Outstanding Works of Calligraphy and Seal-cutting

1. Introduction

With the widespread adoption of the World Wide Web (WWW), an enormous potential audience for new collections-based Internet resources, such as online exhibitions, exists on a daily basis. Memory institutions, which refer to museums, libraries, and archives, are constantly seeing an increase in the presentation of online exhibitions[1]. Similar to other form of exhibitions, online exhibitions are planned, developed, and designed carefully and creatively[2]. They collect digital replicas of real events or objects, which are recreated with the help of multimedia and virtual reality tools, so that to provide users with the same experience as they were seeing or using the physical objects in real life[3].

The application of virtual exhibitions has been accelerated for the COVID-19 pandemic outbreak and the following lockdowns[4]. During their closure, museums scrambled to go remote to overcome the physical inaccessibility. They began to rely more on digital technologies and offer more projects online. Museums worldwide, for example, The National Museum of Modern and Contemporary Art in South Korea, the Louvre Museum in Paris, and the Palace Museum in China, all took out online exhibitions for their audiences. Despite those internationally influential museums, some provincial and local museums also found their way to engage their visitors digitally and virtually, for example, the Tianjin Art Museum and the Freud Museum London. Unlike the big-scale exhibitions sponsored by those national museums, the online exhibition practices of those relatively small museums need further evaluation. Developing an online exhibition is said to be more challenging for local museums because their financial and technological support is far less than that of national museums. Evaluating and analyzing their current practice would be valuable for museums with limited budgets and support. On the other hand, the research will provide those national practices with a more economical and visitor-friendly prospect.

2. Literature Review

Former research studies about online/virtual exhibitions focused more on the design and development of the online/virtual exhibition. Ramaiah looked at the impact of the online exhibition on

promoting cultural heritage awareness[5]. Later serial research studies arguing the concept, methodology, and overview of online/virtual exhibitions were put forward[6][7][8]. At the same time, the multiple technological devices applied in the exhibitions were considered[7][9][10]. On the other hand, case studies on analyzing specific online exhibition practices were a few, but most of them favoured national museums and other big-scaled art organizations. Wilton reviewed the virtual exhibition presenting oral histories and memory objects conducted by the New South Wales Migration Heritage Center (MHC)[11]. Ramaiah also proposed case study of the Online Exhibition of the SPH Photographs Collection[12]. Soren, who worked with the Canadian Heritage Information Network, determined five factors that define the quality of online museum projects, namely, expectations for user engagement, objectives, outcomes, and success indicators[13]. Moreover, Li, Nie, and Ye evaluated the permanent online exhibition of the Palace Museum in China. They developed the evaluation from four dimensions: authenticity, interaction, navigation, and learning[14]. However, the local-based museums with much less support also sought to engage more audiences online under the lockdown. For example, the Tianjin Art Museum, a local art museum in Tianjin, China, whose permanent exhibition objects are mainly artworks by local artists, developed an online exhibition of calligraphy and seal-cutting[15]. The Hunan Museum in China as well as the Freud Museum London in the UK all launched their online exhibition tours. Those local practices were more small scale compared to those national practices, and were not analyzed before. Furthermore, in previous studies, few theoretical analysis model were applied. Therefore, the study introduced the "Model of Analysis of Online Exhibitions" proposed by Santos M. Mateos-Rusillo and Arnau Gifreu-Castells in 2017 to analyze the online exhibition of the "National Exhibition of Outstanding works of Calligraphy and Seal-cutting" held by the Tianjin Art Museum[15][16], aiming to inspire more small scale museums to participate in the development of online museum tours so that to engage wider groups of people through the internet.

3. Methodology

The qualitative research was conducted under the guidance of observations, literature analysis, and case study. Through the observation of the whole online exhibition of the National Exhibition of Outstanding works of Calligraphy and Seal-cutting, including the exhibition itself, the screen functions, and the visitor comments, the study has evaluated the exhibition's design of interaction, content, and the degree of correspondence[15][16]. "The first refers to how the online space is generated, the second refers to the selection, arrangement and exhibition of the contents, and finally the third refers to the relationship between the physical and the virtual exhibitions"[16]. The three could be further divided into eight subcategories, which are shown in the "Model of Analysis of Online Exhibitions" in Figure 1 proposed by Santos M. Mateos-Rusillo and Arnau Gifreu-Castells[16].

Category	Sub-category	Description	Indicators
A – Design of the interaction	A1 – Navigation	Exploration of the space, type of itinerary. Degree of freedom when it comes to navigating the application	• Free (non-linear) • Accompanied (half way between free and automatic) • Automatic (linear) • Multiple (various possibilities)
	A2 – Interaction	Type of user participation during the itinerary	• Active • Passive
	A3 – User experience	Relationship between the user and the interactive system	• Usability • Accessibility
B – Content	B1 – Formats	Types of media for accessing information	• Text • Video • Audio • Virtual reality • Others
	B2 – Arrangement	How are contents arranged in the application	• Association • Complement • Others
C – Degree of correspondence	C1 – Visual	Elements that link, connect and visually relate the online and offline exhibitions	• Interface • Graphics • Subject matter • Others
	C2 – Contents	Metaphors used to recreate the museographic elements	• Level of correspondence • Familiarity • Objects • Recreations • Etc.
	C3 – Degree of innovation	New forms of narrative expression present in the online application	• Representation techniques • Picture enlargement • Extra information • Others

Figure 1 The "Model of Analysis of Online Exhibitions" proposed by Santos M. Mateos-Rusillo and Arnau Gifreu-Castells in 2017.

4. Case Study

As Mateos-Rusillo and Gifreu-Castells clarified, museums deal with the object (the collections), the subject (the public)[16]. Thus the evaluation of an online exhibition was separated into three dimensions where the design of interaction focuses more on the public involved in the exhibition. The content related to museum practices dealt with digital collections. Furthermore, the correspondence referred to the relationship between the physical exhibition and the online one.

4.1. Exhibition overview

Titled by the National Exhibition of Outstanding works of Calligraphy and Seal-cutting, the temporary online exhibition was held by the Tianjin Art Museum, a local museum whose collections are mainly local-featured handicrafts and artworks. Compared to national and provincial large museums, the museum occupies a smaller area and has less visitors. The exhibition displayed outstanding calligraphy and seal-cutting artworks in 2019-2022, which represented the mainstream and highest achievement in the field. Visitors could log into the online exhibition hall through the QR code in Figure 2, which was provided on the museum's official website. After scanning the code with WeChat, visitors were in front of the virtual building. There were an arrow in the middle of the screen prompting the visiting route, together with comment boxes floating on the screen.

It is evident that the target visitors of the online exhibition were those who are able to use digital applications and mobile devices. As a result, senior citizens, people with disabilities, and lower-income groups with difficulties in using electronic technology products were excluded. At the same time, there was a conflict between the museum's and the exhibition's target audiences. The Tianjin Art Museum is open to the local communities in Tianjin, while the exhibition were hoped to be "national".

Figure 2: The online exhibition's QR code on official website of the Tianjin Art Museum.

4.2. Design of interaction

By Clicking on the arrow, visitors were navigated to the exhibition. At the lower left corner of the screen, visitors could choose different scenes, which were numbered from 1-300. Visitors were allowed to skip among the scenes. However, the thumbnails of the scenes representing different parts of the exhibition looked roughly the same. They all had white exhibition boards, yellowing works, red walls, and a large area of the roof and floor of the exhibition hall. At the same time, because all parts were named with serial numbers, it would be difficult to identify one's current location in the hall.

When coming in front of one artwork, the magnifying glass icon would be found near the lower right corner of the work. The clicking of it enabled the audience to have a more detailed look. It was the only way that the public could interact with the objects. While interactions between the visitors and the screen were much more frequent. There was a vertical row of gray icons on the right side of the screen. They represented artwork information, full-screen display, background music playing, viewing angle switching, VR sets, and screen cleaning. People could use the relevant functions after clicking on them.

Generally speaking, the design of interaction is limited. First, the navigation is essentially free. However, due to the thumbnails' design, which makes them all look the same, it was easy to get lost in the virtual hall, turning the navigation into a kind of automatic one. Second, the interaction needs to be more abundant to engage audiences. In the case, the repetitively application of the same pattern inevitably bring exhausting and boring after visiting more than 300 artworks. However, the design of the functions is simple, ensuring the high usability and accessibility of the virtual tour.

4.3. Content

The content of the online exhibition faithfully reflected the collections and the arrangement of the physical one. With the help of virtual reality technology, the whole exhibition, including the building of the museum, the exhibition hall, the artworks, the interpretations, and other parts of the exhibition, were exactly recreated online. The artworks, especially, which were reproduced in the form of high-resolution photographs, could be carefully observed after clicking on the magnifying glass icon near the lower right corner of the work. The arrangement of the content was faithfully stick to the in-house exhibition. All the arrangements for displaying objects were completely restored by virtual reality technology. However, The collections were displayed as a whole. Except a general introduction at the beginning of the display, there were no more interpretations for exhibition sections. The content of each section, for example, the location, the interpretations, and the brief introduction to the artworks inside, was remained unclear to visitors.

4.4. Degree of correspondence

The degree of correspondence of the online exhibition of the National Exhibition of Outstanding works of Calligraphy and Seal-cutting was literally exact. The interface was simple and clear. It was easy for audiences to use the functions and become familiar with the interface. The graphics were realistic, faithfully representing the temporary exhibition's look and arrangement. At the same time, the content was exactly recreated in the virtual space as in the physical one. As a result, the level of correspondence between contents was high. Nevertheless, it also resulted in low innovation of the content. Nothing new was presented virtually. However, it was innovative in picture enlargement. The image of each artwork was of high quality and could be magnified clearly. The vision could also be turned freely. Moreover, visitors could share the exhibition on social media and comment on it.

In general, the entire online exhibition was an accurate and complete restoration of the real exhibition. While the innovation was reduced. Online viewers could have almost the same experience as offline viewers. However, due to the unclear navigation and the lack of interactivity of the exhibition itself, the exhibition experience of the visitor were not such engaging. In the future online exhibition practice, museums can clarify the regional division of the large-scale exhibition. It is advisable to give more impressive and directional names to different areas, mark the location of each part through a map for the entire exhibition, and provide introductions of the objects and contents.

Additionally, the exhibition was exhibited by a small local art museum in Tianjin, and the publicity effect of the online exhibition was unsatisfied due to its low budget. There were few relevant reports in major social media and local news reports. Even though the museum developed online exhibitions to resolve the conflict between the museum's and the exhibition's target groups. The measure seemed to achieve little. As of December 1, 2022, the number of visitors to the online exhibition was only 5826, with only three comments and 86 likes. It is hoped that future local practices would find a balance among budget, publicity, and interaction design so that to maximize the influence of such exhibitions.

5. Conclusion

In conclusion, under the guidance of the online exhibition analysis model proposed by Santos M. Mateos-Rusillo and Arnau Gifreu-Castells in 2017[16], the study looked at the online exhibition practice done by the Tianjin Art Museum from the three dimensions of design of interaction, content, and degree of correspondence. The design of the virtual exhibition was limited, while its content was exactly recreated, as a result, the degree of correspondence between the physical and the online was high. The local-based museum launched the National Exhibition of Outstanding works of Calligraphy and Seal-cutting with the help of virtual reality technology. Through the faithful representation of the physical one, the exhibition tried to reach a larger group through the Internet. However, the interaction, navigation, and division of content must be further enhanced. At the same time, the promotion of the online exhibition should be improved. As a local museum, the balance between national exhibition and local orientation is worth to be considered. Conducting an online exhibition would be a feasible solution. However, how to develop a virtual exhibition with limited financial support but can attract, engage and impress more audience is worth considering in the future local online exhibition practice. Overall, the study provides qualitative and descriptive insight into the Tianjin Art Museum's online exhibition practices using observation, documentary, and case study methods. It is hoped that the online exhibition practice of local museums can get more attention in future museum studies, and other

research methods can also be applied in their evaluations.

References

[1] Kalfatovic, M. R. (2002). Creating a winning online exhibition a guide for libraries, archives, and museums. Chicago: American Library Association.

[2] Ambrose, T., & Paine, C. (2018). Museum basics: The international handbook. Routledge.

[3] Ramaiah, C. K. (2014). Trends in Online Exhibitions. DESIDOC Journal of Library & Information Technology, 34(2), 83-86. https://doi.org/10.14429/djlit.34.6757

[4] Clerkin, C. C., & Taylor, B. L. (2021). Online encounters with museum antiquities. American Journal of Archaeology, 125(1), 165-175. https://doi.org/10.3764/aja.125.1.0165

[5] Chee Khoon, L., Ramaiah, C. K., & Foo, S. (2003). The design and development of an online exhibition for heritage information awareness in Singapore. Program: Electronic Library and Information Systems, 37(2), 85-93. https://doi.org/10.1108/00330330310472876

[6] Foo, S. (2008). Online Virtual Exhibitions: Concepts and Design Considerations. DESIDOC Journal of Library & Information Technology, 28(4), 22-34. https://doi.org/10.14429/djlit.28.4.194

[7] Khoon, L. C., & Ramaiah, C. K. (2008). An Overview of Online Exhibitions. DESIDOC Journal of Library & Information Technology, 28(4), 7-21. https://doi.org/10.14429/djlit.28.4.193

[8] Antoniou, A., Lepouras, G., & Vassilakis, C. (2013). Methodology for Design of Online Exhibitions. DESIDOC Journal of Library & Information Technology, 33(3), 158-167. https://doi.org /10.14429/djlit.33.4615

[9] Viralingam, N., & Ramaiah, C. K. (2008). Comparative Study of HTML and Animated User Interfaces of an Online Exhibition. DESIDOC Journal of Library & Information Technology, 28(4), 43-54. https://doi.org/10.14429/djlit.28.4.196

[10] Carreras, C., & Mancini, F. (2014). A Story of Great Expectations: Past and Present of Online/Virtual Exhibitions. DESIDOC Journal of Library & Information Technology, 34(2), 87-96. https://doi.org/10.14429/djlit.34.6749

[11] Wilton, J. (2009). Belongings: Oral history, objects and an online exhibition. Public History Review, 16, 1-19. https://doi.org/10.5130/phrj.v16i0.845

[12] Yuen, P. K., & Ramaiah, C. K. (2013). From the Picture Press: An Online Exhibition of the SPH Photographs Collection. DESIDOC Journal of Library & Information Technology, 33(3), 208-221. https://doi.org/10.14429/djlit.33.3.4607

[13] Soren, B. J. (2005). Best practices in creating quality online experiences for museum users. Museum Management and Curatorship (1990), 20(2), 131-148. https://doi.org/10.1016/j.musman cur.2005.03.001

[14] Li, J., Nie, J.-W., & Ye, J. (2022). Evaluation of virtual tour in an online museum: Exhibition of Architecture of the Forbidden City. PloS One, 17(1), e0261607-e0261607. https://doi.org/10.1371/ journal.pone.0261607

[15] Virtual reality exhibition hall: the National Exhibition of Outstanding works of Calligraphy and Seal-cutting. https://www.tjmsg.com/ArticleDetail.aspx?Id=2d072a6e-379c-402b-bc74-dff76169d95a#

[16] Mateos-Rusillo, S. M., & Gifreu-Castells, A. (2017). Museums and online exhibitions: a model for analysing and charting existing types. Museum Management and Curatorship (1990), 32(1), 40-49. https://doi.org/10.1080/09647775.2015.1118644