

INFORMATION NEEDS OF LOCAL AND NON-LOCAL MUSEUM VISITORS: A STUDY AT THE MUSEUM OF TOMB MURALS OF THE TANG DYNASTY IN CHINA

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ABSTRACT

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The murals of the Tang dynasty offer invaluable insights into the cultural information of that society by serving as critical cultural artifacts for understanding its social, historical, and cultural development. Given the limitations of mural preservation in museum exhibition environments, the Shaanxi History Museum in China aims to address the diverse information needs of both local and non-local visitors through effective design. As such, this study specifically focuses on the information design of the Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum. To examine the differences in information requirements between local and non-local visitors, researchers gathered data through interviews and questionnaires with experts and museumgoers, and on-the-spot observations. The goal was to identify and analyze effective methods to enhance visitors' understanding and appreciation of the murals. The study highlights that meeting the experience needs of these visitors influenced their engagement with the information presented. This insight can guide the design of museum exhibitions, the space environment, and the efficiency of media and equipment services to ensure a meaningful and fulfilling visitor experience. In conclusion, this paper contributes valuable insights into aligning the museum's information design with the specific information needs of its diverse audience. By catering to the preferences and expectations of local and non-local visitors, the museum can enhance its information design and overall visitor experience, enriching the exploration of Tang dynasty murals and cultural history.

Keywords: Tang dynasty murals; museum information design; visitor experience; cultural heritage interpretation; exhibition design; visitor information needs

1. INTRODUCTION

The Museum of Tomb Murals of the Tang Dynasty, part of the Shaanxi History Museum in Xi'an, Shaanxi province, China, is home to nearly 600 intricate murals from over 20 Tang tombs. This collection includes 18 groups designated as national treasures and 82 in 69 groups identified as first-class artifacts. These murals, illustrating various facets of the Tang dynasty's societal life, including social norms, customs, beliefs,

and ideologies, offer invaluable resources for studying the era, particularly the life, and aspirations of the nobility (Xingming, 2005) (Figure 1).



Figure 1: Tang Dynasty Tomb Murals Reflect the Cultural Landscape of Its Society (Shaanxi History Museum, China)

The International Council of Museums (2022) recently defined museums as non-profit, permanent institutions committed to societal service through the research, collection, preservation, interpretation, and display of tangible and intangible heritage. Museums are expected to promote diversity and sustainability, operating and communicating ethically, professionally, and with community engagement. They should provide a range of educational and recreational experiences, opportunities for reflection, and knowledge sharing.

According to Dean's (2002) monograph "Museum Exhibition Theory and Practice," museums must actively evaluate and recognize visitors' needs to foster a sense of belonging and facilitate interaction with collections. In the digital age, museums employ information designed to connect with and cater to various visitor groups. Collecting cultural relics, academic research, and cultural dissemination remain their core functions (Xiangyang, 2015). This shift has led museum information services to evolve from traditional passive information providers to comprehensive service providers centered on visitor experience and primarily based on proactive visitor engagement (Jingbo, 2019).

In the context of such changes, providing a positive visitor experience has become a vital metric for evaluating museum design work. Museums increasingly strive to foster more comprehensive, engaging community relationships with their visitors (Kotler & Kotler, 2007) (Figure 2).

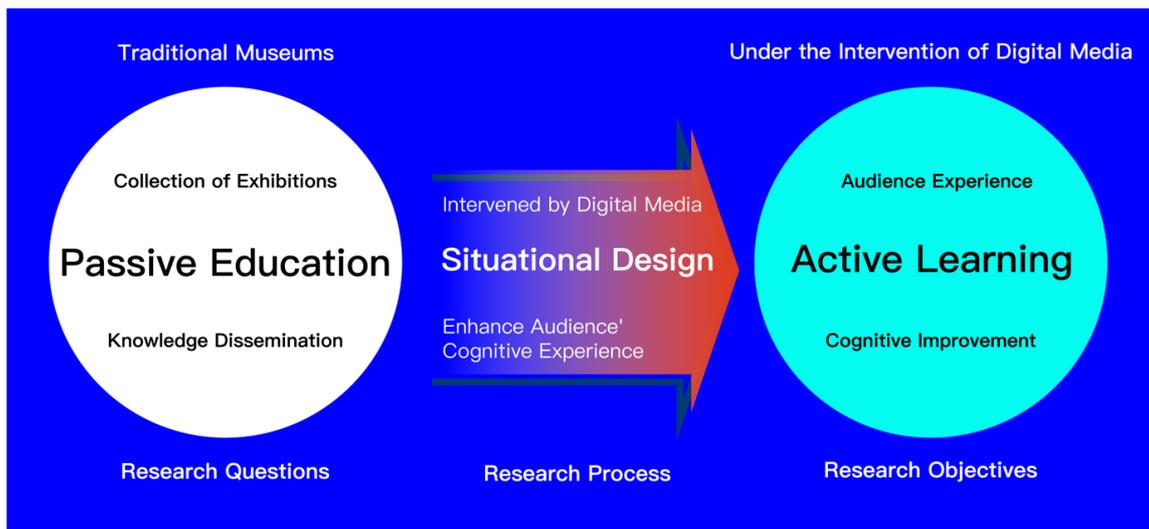


Figure 2: Information Needs of Museum Visitors from Passive Education to Active Exploration
 Source: Produced by the Authors

The Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum has been designed with modern visitors' information needs in mind, leading to gradual evolutions in environmental and information service designs. The exhibition employs a traditional guide information system to give visitors an overview of the mural exhibition (Figure 3). Furthermore, the museum has implemented an information service system that uses sound, imagery, and digital interactive design to deliver a broader understanding of tomb murals, enhancing visitors' cognitive experiences (Wenzhen, 2018).



Figure 3: The Shaanxi History Museum Exhibition Hall, China
Source: Shaanxi History Museum

The information service system of the museum serves to improve the convenience of visitors to acquire professional knowledge and enhance their leisure experience during their visit (Johnson et al., 2013). To this end, the museum divides its information service system into two sections: one that meets visitors' professional information needs and another that caters to their leisure experience requirements (Peilin, 2019). The former is focused on the content and theme of the Tang dynasty's tomb murals, providing visitors with knowledge acquisition and information demand services. The latter centers on visitors' activities in the museum, providing them with the necessary information service for leisure interaction.

The museum's information service system fosters a unified information service environment through four elements: space, media, visitor, and exhibition. The system organically intertwines professional and leisure information design services to augment visitors' museum awareness, using specific cultural relics, tour guides, sound, light, and equipment (Guo, 2021).

The Museum of Tomb Murals of the Tang Dynasty is designed to address modern visitors' information needs, improving the exhibition's environmental design and associated information service design over time. The information service system elevates visitors' professional knowledge and leisure experiences by providing knowledge acquisition and interaction information services, creating a unified information service environment that enhances the visitor experience.

In the digital era, a visitor's cultural background is a significant factor in their connection with the content of the tomb murals. Thus, it is suggested by researchers to segment visitors based on specific criteria (Falk & Heng, 2020). These segments could include local and non-local groups, defined by factors such as their living environment and differing needs for design information. This approach broadens the scope of this study, but also aids in facilitating more granular research subdivisions (Xiaomei, 2014). Further, visitors can be classified based on their level of engagement and information needs during their museum visit. Subdivisions could include 'shuttle,' 'visit,' 'research,' 'potential,' 'ordinary,' 'loyal,' and 'professional' types (Wanzhen, 2011). These various visitor segments provide a substantial foundation for the progression of this study.

Building upon this foundation, we have surveyed the information service needs of visitors to the Museum of Tomb Murals of the Tang Dynasty of the Shaanxi History Museum. We have also assessed the effectiveness and satisfaction of the current information service design system in fulfilling the visitors' information needs. This research will enhance the museum experience, aligning with visitors' evolving expectations and needs in the modern information age.

2. MATERIALS AND METHODS

This section presents a categorization of the study materials into two distinct elements. One element of the study outlines three clear research objectives, while the other provides a detailed explanation of the

exact procedures employed. This includes discussing the scope of the study, the research instruments used, and the data collection methods employed.

2.1 Research objectives

There are three primary goals of this study:

1. To understand the diverse information requirements of visitors to the Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum.
2. To investigate the sources and cognitive needs of local and non-local visitors in acquiring information about the Tang dynasty tomb murals exhibition and analyze the factors contributing to their differing information needs.
3. To provide practical recommendations for enhancing the museum's information service design system based on the research findings.

2.2 Research methodology

This research employs a combination of expert interviews and visitor questionnaire surveys to gain insights into the diverse visiting patterns and information needs of museum visitors.

2.2.1 Scope of the study

2.2.1.1 Scope of content

This study centers on the nuanced topic of the Tang dynasty tomb murals. Through a literature review, the researchers have distilled an appropriate content scope that aligns with the differentiated information needs of museum visitors. The research site chosen for this study is the Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum in China. The museum's administration and research team provided additional review and support to ensure the validity and reliability of the study.

2.2.1.2 Population range

The Human Research Ethics Committee reviewed and approved the proposed study, ensuring full compliance with the Declaration of Helsinki and general ethics, laws, regulations, and domestic guidelines. The study collected insights and feedback from five experts in relevant fields. It surveyed 180 volunteer participants who visited the Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum in China. After excluding incomplete or invalid questionnaires, the study analyzed 154 valid responses, including 116 from local and 38 from non-local visitors. The survey was conducted from May 11 to July 20, 2022.

The investigation incorporated the perspectives of five experts, each of whom contributed a distinct viewpoint to the design of the Museum of Tomb Murals of the Tang Dynasty in the Shaanxi History Museum. Professor Zhan Qinchuan, dean of the School of Design Art at Shaanxi University of Science and Technology, analyzed visitors' behavior from a design perspective using his extensive teaching experience. Prof. Mi Gaofeng, the vice-dean of the same institution, utilized his cultural communication expertise to investigate audience requirements. Prof. Chen Xia, director of the Department of Clothing at Xi'an Academy of Fine Arts, added an ethnological perspective by discussing cognitive needs concerning regional and cultural variations. Prof. Chen Zanwei, director of the Film and Television Animation Department at Guangzhou Academy of Fine Arts, contributed a media interaction perspective to discussing museum visitor requirements. Researcher Cai Changlin from the Office of Cultural Relics, Archaeology, and Protection at the Shaanxi History Museum addressed the relationship between museum exhibitions and audience requirements.

2.2.2 Research instruments

The researchers used various data collection tools to gather relevant information about visitors visiting the Museum of Tomb Murals of the Tang Dynasty. These tools included visitor information collection forms and interview questionnaires, available in paper format and electronically via QR code scanning. Additionally, electronic devices such as cameras, smartphones, computers, and related equipment were used to record images and data during the study.

2.2.3 Data collection

Data in this study were collected via three methods:

2.2.3.1 Data through theory: Research data on the Museum of Tomb Murals of the Tang Dynasty service design were collected from relevant documents, textbooks, electronic databases, online resources, and museum literature.

2.2.3.2 Expert interviews: Constructive interviews were conducted with experts to discuss concepts related to museum information service design management, information media, information demand planning,

and related visitor services. These interviews provided more profound insights into the visitor's needs for museum service design.

2.2.3.3 Field investigation: The research team conducted observations, interviews, and distributed questionnaires to various visitors. This participant pool consisted of subject matter experts and frequent museum visitors. To better tailor information services, the team actively collected data regarding the distinct characteristics of visits from various demographic groups and identified their fundamental requirements. The team collected qualitative and quantitative data through these on-site surveys.

3. FINDINGS AND DISCUSSION

In this section of the chapter, the analysis is divided into two distinct facets: the expert interview analysis and discussion, and the data analysis of tourists' information needs in the Museum of Tomb Murals of the Tang Dynasty at Shaanxi History Museum.

3.1 Expert interview analysis and discussion

The experts provided insightful suggestions on various aspects of the museum's design, including venue planning and design, exhibition design, media design, visit route, and graphic application design. Through extensive discussions, the researchers identified the museum exhibition information design and the differentiated needs of visitor visits, which are detailed below:

A. Exhibition venue planning and exhibition content design

1. The layout of the venue should cater to the visiting habits of ordinary visitors.
2. The visiting route should be logically designed, considering the speed of personnel flow, dwell time, and the division of critical cultural relics viewing sites.
3. The environment's design should echo the exhibition content and provide an immersive visiting experience for the visitors.
4. Digital media technology and information interaction design should be wisely used to enhance visitors' awareness and visiting experience.

B. Design of media use, visiting route, and image system in the venue

1. The distinctive attributes of different media should be fully utilized, employing interactive visits to stimulate the visitors' senses and enhance their visiting experience.
2. The visual guide system should adhere to international design standards, offering transparent information and intuitive colors, primarily graphics, supplemented by multilingual and multi-ethnic characters.
3. Graphic, spatial, and color design should be carefully used for more accurate and recognizable directional guidance.
4. The digital interactive design system should use smart devices and be innovative.

C. Design of basic service facilities in the venue

1. Professional information services and design assistance should be provided to the visitor in a friendly and proactive manner, addressing their various needs.
2. The sensory temperature, ventilation, and lighting system should be reasonably designed and arranged.
3. The visual logo design system should remind the visitors of permissible or prohibited actions in a friendly manner.
4. The friendly logo design system should guide the visitors' visit and focus on the emotional interaction of the visitors.
5. Design services should be provided for leisure areas, catering, networking, charging, and childcare outside the exhibition area.
6. Traffic-related information services should include design instructions for public transportation systems and parking information.
7. Business services should be developed and designed around the tomb murals of the Tang dynasty for cultural and creative products.

D. Information demand service during the visitors' visit

1. The visitors' information needs during the museum visit primarily revolve around the exhibition time, theme, content, and method.

2. The visitors emphasize the information guidance system during the visit, such as information booklets, guidance systems, voice assistance systems, interactive digital systems, and manual explanation or inquiry services.
3. Language service requirements should accommodate Chinese, English, and Japanese texts, sounds, and visual information with national attributes. Consideration should also be given to ethnic languages and textbooks that focus on China's ethnic minority regional cultures.
4. Special service designs should be provided for people of different genders and ages, and those who are old, weak, sick, or disabled.

In conclusion, the expert interviews provided valuable insights into the design of the Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum. The researchers recommend that these expert suggestions be considered when planning the venue and services for the visitors.

3.2 Analysis of tourists' information needs in the Museum of Tomb Murals of the Tang Dynasty at Shaanxi History Museum.

3.2.1 Survey background of museum visitors

The survey gathered valid responses from 154 visitors: 116 local and 38 non-local. Among the respondents, 73 (47.4%) were male, while 81 (52.6%) were female (Table 1).

3.2.2 Information sources of visitors prior to visiting the museum

The survey was designed to investigate the channels through which visitors accessed exhibition information before visiting the museum. The questionnaire included various access channels, such as print media (magazines and newspapers), digital media (radio and television), online media, social media, and traditional social network recommendations. Notably, most recommenders also obtained exhibition information online and shared their visit experiences through social media, highlighting the importance of online media in disseminating information about the museum (Table 2). On the contrary, the proportion of visitors who obtained museum exhibition information through traditional paper media, such as magazines and newspapers, was relatively small. This concurs with the researchers' expectation that paper media is gradually weakening in information dissemination (Tian & Zijun, 2017).

Table 1: Background of Museum Visitors

	Local		Non-local		Total	
	Number	Percent	Number	Percent	Number	Percent
	116	75.3	38	24.7	154	100
Gender						
Male	55	47.4	25	65.8	80	51.9
Female	61	52.6	13	34.2	74	48.1

Table 2: Information Channels Before Visiting

Pre-Visit Information Channels	Local		Non-local		Total		<i>t</i>	<i>p</i> value
	Number	Percent	Number	Percent	Number	Percent		
	116	75.3	38	24.7	154	100		
Internet Media								
Website	35	30.2	01	02.6	36	23.4	5.482	.000**
Social Media	63	54.3	31	81.6	94	61.0	-1.534	.069
Friend (social media)	47	40.5	23	60.5	80	51.9	-1.762	.127
Digital Media								
Broadcast	23	19.8	03	07.9	19	12.3	2.062	.042*
Television	52	44.8	02	05.3	53	34.4	6.214	.000**
Traditional Media								
Magazine	25	21.6	00	0.00	25	16.2	5.621	.003**
Newspaper	11	09.5	02	05.3	13	08.4	0.733	.247

Note: **p* < .05 ***p* < .01

Through interviews and analysis of the feedback from museum visitors, the researchers determined that traditional media have limited accessibility, and local tourists are more likely than non-local tourists to obtain pertinent information about museum exhibitions via radio and television. Most of the non-local visitors to the Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum relied on online media for exhibition information, especially social media. It is worth noting that non-local tourists are more inclined to use the communication attributes of social media to seek advice from friends and formulate

travel strategies based on the advice of friends. As the influence of conventional media declines, fewer individuals obtain information about museum exhibitions through this medium. Internet-based media are becoming the primary means by which audiences access information. Due to the social characteristics of its information channels, this digital platform provides visitors with the information they require and recommendations from other users. This paradigm transition affords new software and hardware technological advantages.

3.2.3 Information sought by visitors prior to visiting the museum

Survey results reveal that local visitors prioritize information such as museum opening hours (92.2%), public transportation systems (75.9%), ticket prices (72.4%), and exhibition themes (65.5%). Non-local visitors, on the other hand, focus more on opening hours (81.6%), public transportation (78.9%), the museum's address (76.3%), and tour guide services (50%). While all visitors paid attention to essential auxiliary information, the focus varied between local and non-local visitors, with local visitors interested in new exhibition information and non-local visitors interested in the details of the museum's general introductory information. Museum information services should thus center on the visitors' experience needs, facilitating access to essential information (Table 3).

Table 3: Information Needs Before Visiting

Information Needed Before Visiting	Local		Non-local		Total		<i>t</i>	<i>p</i> value
	Number	Percent	Number	Percent	Number	Percent		
	116	75.3	38	24.7	154	100		
Museum Information								
Address	40	34.5	29	76.3	69	44.8	-2.169	.036**
Opening Hours	107	92.2	31	81.6	138	90.0	1.402	.170
Ticket Prices	84	72.4	18	47.4	102	66.2	3.067	.004**
Areas Facilities	46	39.7	13	34.2	59	38.3	0.301	.113
Guide Services	47	40.5	19	50.0	66	42.9	-1.069	.274
Announcement	25	21.6	3	7.9	28	18.2	2.344	.006**
Exhibition Information								
Exhibition Topic	76	65.5	13	34.2	89	57.4	1.503	.003**
Exhibition Form	17	14.7	1	2.6	18	11.6	2.845	.006**
Exhibition Content	51	44.0	3	6.6	52	33.8	7.916	.000**
Special Lectures	23	19.8	0	0	23	14.9	5.427	.000**
Exhibition Notes	25	21.6	5	13.2	30	19.4	1.367	.131
Service Information								
Public Transit	88	75.9	30	78.9	118	76.6	-0.142	.086
Weather Report	28	24.1	8	21.1	36	23.2	0.389	.198
Dining Facility	23	19.8	3	7.9	26	16.8	2.062	.042*
Cultural Events	4	3.4	6	15.8	10	6.5	-1.533	.069
Nearby Attractions	25	21.6	5	13.2	30	19.4	1.268	.209

Note: **p* < .05 ***p* < .01

This study's results resonate with the fundamental cognitive process of individuals: the initial decision to participate, followed by evaluation of the experience and visit quality. An in-depth analysis elucidates that museum information services should be oriented toward fulfilling the experiential needs of the visitors. During a visit, the emotional requirements and sense of identification warrant attention (Alelis et al., 2013; Perry et al., 2017). The accessibility and ease of inquiry in the museum's information service are also critical factors.

Considering the principles of user psychology and ergonomic design, it is imperative to design and plan an accessible method for obtaining basic information. Such a strategy could enhance the satisfaction levels associated with museum visits (Carroll, 1997).

3.2.4 Demand scope for exhibition information provided by museums

Museum-provided exhibition information serves as a bridge between the visitors and the exhibits. This demand for exhibition information is centered around the exhibits, with the visitors as the focal point of the service. It emphasizes the ease of information acquisition for the visitors and the satisfaction of their emotional needs during the visit (Macdonald, 2007). Through research and analysis (Table 4), the investigators determined that information on exhibition content and timing was a critical demand for both local and non-local visitors. Subsequently, the visitors focused on the design of the visual guidance system, the paper map and guidebook, multimedia guides and interaction, lecture arrangements, and visiting experience feedback.

Comparing local and non-local visitors, there is a fundamental consistency in the overall direction of information needs. However, specific information needs may vary. Local visitors prioritize the exhibition

content and exhibit quality. Since local visitors are not first-time museumgoers, their information needs for the museum guide system ($t = 2.098, p = .003$) and written visitor manual ($t = 3.509, p = .001$) are lower than those of non-local visitors. Regarding information on education and lectures provided by the museum ($t = 0.675, p = .013$) and visit feedback ($t = 0.246, p = .071$), local visitors exhibit significantly higher demands than non-local visitors. This difference is associated with visit duration and itinerary planning, as local visitors possess an advantage in time planning compared to non-local visitors.

Upon comparing the average data statistics, local visitors exhibit higher M reference values for exhibition map ($M = 5.85$), multimedia tour ($M = 5.20$), relevant exhibition news ($M = 5.14$), lecture information ($M = 4.74$), and visit feedback ($M = 4.36$). Conversely, non-local visitors have higher M reference values for content, time, location ($M = 6.36$), exhibit content label ($M = 6.01$), visual guide system ($M = 5.80$), and written visitor brochure ($M = 5.08$). These findings suggest that museum service information design should cater to the information needs of diverse visitor groups and prioritize the comprehensive planning of personalized experiences for the visitors (Mckay, 2007) (Table 4).

Table 4: Scope of Demand for Exhibition Information

Scope of Demand for Exhibition Information	Local		Non-local		Total		<i>t</i>	<i>p</i> value
	M	SD	M	SD	M	SD		
Content, Time, Location	6.18	0.96	6.36	1.04	6.27	0.01	-0.811	.415
Exhibition Map	5.85	0.98	5.18	1.20	5.52	1.09	2.098	.003**
Visual Guide System	4.93	1.14	5.80	1.01	5.87	1.08	-0.416	.679
Written Visitor Brochure	4.74	1.13	5.08	1.20	5.41	1.17	3.509	.001**
Multimedia Tour	5.20	1.22	4.79	1.23	5.00	1.23	1.397	.168
Exhibit Content Label	5.84	1.05	6.01	1.18	5.93	1.12	-0.698	.477
Relevant Exhibition	5.14	1.13	4.86	1.46	5.00	1.30	1.204	.201
Lecture Information	4.74	1.22	4.38	1.24	4.56	1.23	0.675	.013
Visit Feedback	4.36	1.33	4.11	1.21	4.39	1.27	0.246	.071

Note: ** $p < .01$

4. CONCLUSION AND SUGGESTIONS

4.1 Conclusion

This research presents an in-depth analysis of the information service provided by the Museum of Tomb Murals of the Tang Dynasty at the Shaanxi History Museum. The methodological approach entailed comparing and analyzing data from various sources and visually representing findings using tables. The primary focus was on the different information needs between local and non-local visitors, considering the demographic makeup of museum visitors, pre-visit information acquisition channels, pre-visit requisite knowledge, and the scope of museum-provided exhibition information services.

The research underscores that the information channels utilized by museum visitors embody the varied behaviors and methodologies they adopt to gather information before their visit. Drawing from the analysis of lifestyles and behavioral patterns obtained through questionnaires, it appears that younger individuals (aged 15–40 years) preferred using the internet and social media to glean information about museum exhibitions. On the other hand, older visitors (those over 45 years old) depended predominantly on traditional media like radio, television, magazines, and newspapers to meet their information needs. Additionally, the research reveals that, owing to constraints in information dissemination, traditional media primarily addresses the needs of local tourists. Geographical and knowledge limitations mean that non-local visitors rely considerably less on traditional media for information needs, showing a propensity towards the Internet of Things information platforms known for their social and interactive attributes. Survey data analysis indicated that despite the professional display of information on the museum's official web terminal, it has been unable to keep pace with the evolving mobile information needs of visitors in the digital era, attributable to limitations in accessibility and information convenience. Consequently, the web terminal has lost its dominance as a primary visitor information source. After examining the survey data, the study concludes that intelligent mobile information interaction devices have emerged as the primary source of information for visitors in the digital era, thanks to their convenience, immediacy, and social interaction capabilities.

In comparing digital and traditional paper media, the study affirmed the dominance of the former in information dissemination, with a growing number of people accessing information digitally. Owing to its visual and interactive attributes, digital media offers advantages in information dissemination, reflecting the late developmental benefits of digital technology in this realm. Through its auditory and interactive

characteristics, digital media enhances the multisensory stimulation of information acquisition for visitors (Davis & Stack, 1997).

In examining the key information that potential museum visitors should acquire before their visit, the study finds that their primary attention centres on logistical considerations and sensory experiences. This category includes crucial factors such as the museum's geographical location, operational hours, entrance fees, availability of guidebooks, accessibility via public transportation, as well as options for recreation and entertainment. This finding deviates from the initial research hypothesis, which postulated that visitors would place considerable emphasis on comprehending the exhibition's content, structural layout, safety protocols, and educational offerings before their arrival. While there are discernible differences in individual preferences between local and non-local visitors, a comparative analysis of overarching trends reveals that, on average, logistical information tends to hold greater salience than details related to museum services and exhibitions. This observation aligns with individuals' innate cognitive processes, in which decisions about participation precede more reflective assessments of the experience and overall visit quality. A holistic review suggests that museum information services should prioritise not only the practical aspects of the visitor experience but also cater to emotional needs and identity considerations during their stay (Alelis et al., 2013; Perry et al., 2017).

The survey compiled the opinions of five experts, each providing a unique perspective on the design of the Museum of Tomb Murals of the Tang Dynasty in the Shaanxi History Museum. Prof. Zhan Qinchuan, Dean of the School of Design Art at Shaanxi University of Science and Technology, analyzed the behavior of visitors from a design perspective. He believes the design should be centered on the visitors' experience and learning during their visit. The institution's vice president, Professor Mi Gaofeng, utilized his expertise in cultural communication to emphasize the visitors' requirements. He believes museums, as conduits for cultural communication, should consider the general laws of cultural communication when designing their exhibitions. Professor Chen Xia, Director of the Clothing Department at Xi'an Academy of Fine Arts, discussed regional cultural differences' cognitive requirements from an ethnological standpoint. She believes that focusing on regional disparities in cognition will significantly improve the museum. Professor Chen Zanwei, director of the Department of Film and Television Animation at Guangzhou Academy of Fine Arts, discussed the media interaction requirements of museum visitors. He believes that museum exhibitions should ultimately mobilize the initiative and enthusiasm of the visitors and that learning should occur through interaction. Cai Changlin, a researcher from the Shaanxi History Museum's Department of Cultural Relics and Archaeological Protection, discussed the relationship between museum exhibitions and visitor requirements. Upon approaching cultural relics, he believes that visitors must possess cultural identity. Museum exhibitions should fully engage the visitor's intellect, and the exhibition format should be mindful of visitor requirements.

According to Qiu (2015), local museumgoers are more interested in exhibition content, paying attention to information extending from the exhibition content, such as visiting time, interaction methods, educational lectures, related exhibition information, and exhibition experience feedback. Interviews with most local visitors revealed they had been to the mural museum multiple times and were familiar with its exhibition layout. They do not require a wayfinding system, tour guide services, or printed manuals to navigate the venue. On the contrary, non-local visitors may be making their first visit to the mural museum. Due to unfamiliarity with the museum exhibition space and information, non-local tourists must spend more time familiarizing themselves with and comprehending the museum exhibitions than local tourists. These tourists prioritize the efficiency of their museum visits and require visual guidance systems, exhibition maps, exhibition manuals, exhibit information labels, and inquiry services to optimize their experience.

Even though local and non-local visitors share similar information needs when visiting museums, there are distinct differences regarding specific information details. As such, museums must consider the regional variations in visitors' information needs when designing services and prioritize the needs of different groups in their routine design work.

4.2 Suggestions

The findings of this research present potential avenues for further investigation. One area of interest for future research could be an evaluation of visitors' comprehension of the content displayed in museum exhibitions. As new formats of exhibitions and technologies continue to evolve, visitors will likely encounter novel ways of experiencing and learning. Therefore, it is imperative for researchers to stay abreast of new technologies and media methods and continuously enrich and deepen their studies.

Future studies could also explore the effectiveness of different methods of presenting exhibition information to local and non-local visitors. It could involve exploring multimedia resources and interactive technologies to enhance visitor engagement and experience. By addressing these topics, researchers can provide more comprehensive insights into audiences' information needs and preferences within the context of museum exhibitions. In doing so, they can contribute to creating more inclusive and effective museum information services.

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