

Research on the Development Path of Silver Hair People Culture and Tourism in the Era of Digital Intelligence

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Abstract

In the age of digital intelligence, where population aging and digital intelligent technology are deeply integrated, the silver hair culture and tourism industry is undergoing a transformation from being suitable for the elderly to being intelligent. This paper systematically examines the new trend and realistic background of cultural and tourism consumption of silver haired groups, and puts forward the core proposition of digital inclusive design. Digital intelligence technology should not become an invisible threshold for cultural tourism participation of silver haired groups, but should build a full link aging service experience through collaborative innovation of perceptual intelligence, cognitive intelligence and embodied intelligence. In the future, the development path of silver hair people culture and tourism needs to work together in four dimensions: Technology empowerment, scene reconstruction, security and ecological coordination, so as to realize the leap from functional compensation to experience value-added, and make digital intelligence technology truly become a bridge for silver haired groups to enjoy cultural and tourism life.

Keywords

Digital intelligence era, silver hair people cultural tourism, digital inclusion, aging service.

1. Introduction

China's population over the age of 60 has exceeded 280million. When the post-60 and post-70 silver haired groups enter the old age stage, they have higher consumption ability and more open digital literacy. Therefore, silver haired cultural tourism should not be a marginal supplement to pension services, but should become one of the most prominent and valued segments of the cultural tourism industry. Digital intelligence technology, represented by large models, embodied intelligence and end-to-side intelligence, is penetrating cultural tourism scenes with unprecedented depth. From AI travel planning and intelligent navigation to wearable health monitoring and exoskeleton walking aids, the technology has opened up a very broad space for silver haired cultural tourism. However, the rapid development of technology has also brought new concerns. The reservation system has become an age filter, and the smart guide has become a maze of elderly people who can't use smart phones. In the digital age, should silver haired cultural tourism let technology prevail or let technology serve people. The ultimate goal of design is not to create dazzling technological wonders, but to enable everyone to enjoy a better life equally and safely.

2. The Realistic Picture of Silver Haired Cultural Tourism Section Headings

In January 2025, the general office of the State Council issued several measures on further cultivating new growth points and prospering culture and tourism consumption. [1] In the process of consumption upgrading and intergenerational change, the most prominent and clear feature of the silver hair people culture and tourism market is the qualitative leap in consumer demand. The per capita cost of accommodation consumption of the silver hair people group has been more than 30% higher than that of the youth group. The proportion of people aged 50-70 in the outbound luxury cruise line users accounts for more than 70% of the total passengers. The consumption psychology anchored by quality is actually a direct reflection of the deep logic of intergenerational change. Different from the price sensitive consumption view of the traditional silver haired group, the new generation of silver haired people are more willing to pay for the added value of cultural experience, health preservation and social interest. This demographic structural change not only creates huge demand for the development of the silver industry, but also promotes the transition of the silver economy from a supplementary role at the edge of the industry to a core economic sector. [2] The rise of vertical market segments such as photo tour groups, food tour groups and elderly study tours is evidence of this trend.

The trend of digital integration into intelligent penetration is obvious. The digital consumption behavior of the silver haired group has a very clear and recognizable dual driving feature, that is, the algorithm recommendation of the short video platform at the information acquisition end and the spread of social networks can become the tourism motivation, while the aging transformation of the OTA platform at the consumption execution end and the popularity of AI voice assistant have greatly improved the online booking rate. Therefore, the silver haired group is by no means a negative counter to technology.

Dimension	Core points	Specific performance and data support
Market characteristics: quality transition	Consumer demand has shifted from price sensitivity to quality anchoring, driving the silver economy to become the core sector.	<ul style="list-style-type: none"> -Consumption data: the per capita cost of accommodation for the silver haired group is more than 30% higher than that of the youth group; People aged 50-70 account for more than 70% of the outbound luxury cruise lines. -Value orientation: willing to pay for the added value of cultural experience, health preservation, interest in social networking, etc. -Market performance: the emergence of photography tour groups, food tour groups, elderly study tours and other vertical market segments.
Digital behavior: dual drive	Silver haired groups are not technology resisters. Their digital consumption is driven by both information acquisition and consumption execution.	<ul style="list-style-type: none"> -Information terminal (grass planting): short video algorithm recommendation and social network communication stimulate tourism motivation. -Executive end (reservation): the OTA platform is adapted to aging transformation, and AI voice assistant is popularized to improve the online reservation rate.
Development obstruction: invisible threshold and aging deficit	The surface aging is out of line with the actual demand, and there are many obstacles.	<ul style="list-style-type: none"> -Skill gap: 40.4% of the elderly do not use smart phones; Very few people can skillfully use the complex functions such as appointment registration and online car Hailing. -Process obstacles: the scenic spot mainly uses online booking, verification code and pop-up advertising to become Land Rover. -Deep deficit: aging adaptation is superficial (such as only enlarging font), lacking understanding of physiological characteristics, cognitive laws and emotional needs. -Short board of facilities and talents: lack of intelligent navigation, low coverage of barrier free facilities, and shortage of professionals.

Figure 1. The current situation of silver hair people cultural tourism

Invisible threshold and aging deficit. 40.4% of the elderly in China do not know how to use smart phones. It is rare that they can skillfully use complex functions such as appointment registration and online car Hailing. Therefore, the scenic spot takes online booking as the main ticket selling channel, and the verification code and pop-up advertisement have become the necessary barriers to enter the service. More importantly, the current so-called aging adaptation is superficial. It is really necessary to enlarge the font and simplify the interface, but without a practical understanding of the physiological characteristics, cognitive laws and

emotional needs of the elderly group, it is impossible to fundamentally solve the problem. The most direct and prominent obstacles to the high-quality development of silver hair people culture and tourism are the lack of intelligent guide for scenic spots, the low coverage of barrier free facilities, and the shortage of professionals. As shown in Figure 1.

3. The Logic of Digital Intelligence Empowering Silver Culture and Tourism

To make digital intelligence technology play an enabling role in the field of silver hair people culture and tourism, we should first establish a three-dimensional collaborative technology enabling system of perception cognition embodiment, and naturally and reasonably realize the experience upgrading from participation to quality sharing.

Precisely matched perceptual intelligence. The cultural and tourism demand of the silver haired group is by no means simple and unified. The young elderly attach importance to leisure, the elderly attach importance to safety and convenience, the energetic elderly attach importance to cultural experience, and the semi disabled elderly attach importance to health and companionship. Therefore, the drawbacks of the homogenization supply of traditional tourism products are very obvious. The AI user portrait technology provides a very natural and appropriate solution, that is, from the data of age, health status, interest preferences, consumption records and so on, the intelligent system actively and accurately recommends suitable products to different elderly users, and ensures that tourism consumption is within the budget through price comparison. The essence is to improve the ability to control perceived behavior by controlling economic resources, so as to avoid the feasibility of travel affected by cost overruns. [3] Personalized service itself is the most valuable embodiment of perceived intelligence.

From function compensation to experience value-added. The traditional method of aging design focuses on function compensation. It is necessary to enlarge the font, simplify the operation and retain the manual window. However, if only this is done, the quality of cultural and tourism experience of silver haired groups cannot be effectively improved. Therefore, the aging design in the digital intelligence era should change from compensation to value-added. The fundamental value of technology is not only to make up for the ability gap, but also to actively create experience value.

Embodied intelligence of security guard. Safety demand is the most fundamental and core demand of silver hair people culture and tourism consumption. Due to the decline of physiological function of the elderly, there are risks in transportation, accommodation and activities in the process of tourism. Therefore, the application of specific intelligent devices naturally provides technical support for the full cycle safety protection system. The silver haired tourist train can be equipped with intelligent monitoring equipment to monitor the vital signs of the elderly in real time. In case of emergencies, the onboard medical staff will handle them in time. The exoskeleton robot used in mountain scenic spots can effectively reduce the walking fatigue of elderly tourists by more than 30%, which not only expands the scope of their tour, but also naturally reduces the risk of falls. Therefore, it can be said that embodied intelligence is really turning security protection to pre prevention and in-process intervention.

Industrial ecology has moved from single point breakthrough to collaborative innovation of system integration. In order to achieve high-quality development, silver hair people culture and tourism can not rely on the breakthrough of a single technology and a single scene. Instead, it should actively and systematically build an intelligent ecosystem of scenic spots, transportation, hotels and medical treatment, and effectively solve various pain points in the travel of silver hair people group, such as difficulty in purchasing tickets, tiredness in waiting,

expensive accommodation, and health concerns, with the Trinity service mode of digital, business travel and health. Therefore, it also naturally breaks the long-standing segmentation in the traditional culture and tourism industry chain, so that elderly tourists can enjoy the truly seamless full link service. As shown in Figure 2.

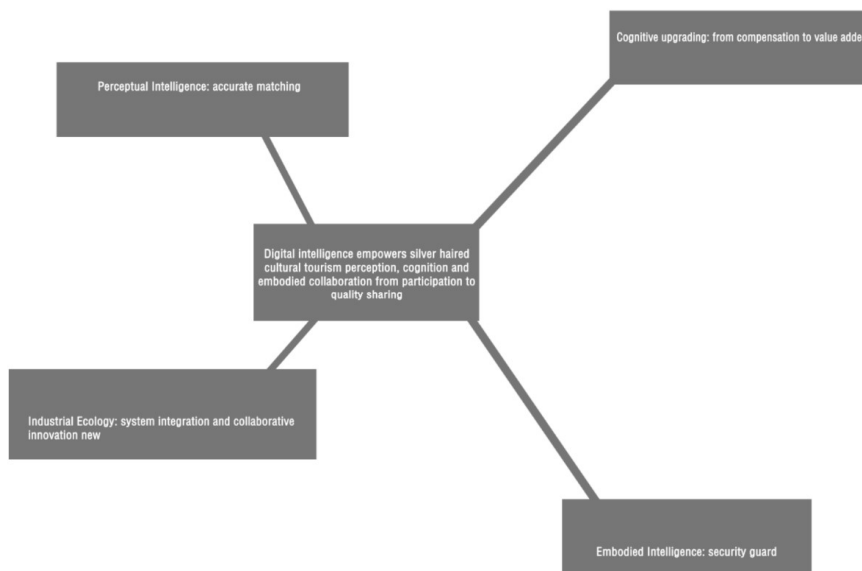


Figure 2. Enabling path

4. Building a Digital Inclusive Silver Hair People Culture and Tourism System

Starting from the current analysis, this paper practically puts forward four paths for the development of silver haired cultural tourism in the digital intelligence era.

Starting from the technology adaptation path, the design ethics of digital inclusion should be established systematically and hierarchically, that is, the design of technology should never be based on young users as the default standard, and the needs of the elderly should be included in the initial consideration of the design. Therefore, elderly users should be introduced to participate in the test in the product development stage, and an iterative mechanism should be established to be verified by the elderly and optimized for the elderly. Strengthen the construction of digital intelligence infrastructure, and deploy high-quality networks covering scenic spots, online clock outs, cultural institutions, business centers, transportation hubs and other areas to ensure stable network connectivity and meet the network needs of operators and tourists. [4] Finally, it will be upgraded to the industry standard.

From the perspective of scene reconstruction, the full contact aging experience is designed systematically and hierarchically. The promotion of silver hair people culture and tourism experience must cover the whole process of pre-trip planning, in trip experience and post trip sharing. Therefore, let the AI travel planning system give consideration to personalized willingness and security before trip, recommend products with slow pace and complete facilities, and seamlessly connect scenic spot guidance, accommodation services and traffic connections, so as to achieve a truly smooth aging design. After the trip, silver haired groups are encouraged to share socially, which naturally forms a virtuous cycle of consumption experience sharing re consumption. Every contact on this chain needs careful polishing by designers. Digital empowerment is not only an important tool for market expansion, but also an important means to improve service quality and customer satisfaction. [5]

Starting from the security path, the protection network of human technology collaboration is built systematically and hierarchically. Technology empowerment is by no means a technology substitution. Therefore, AI monitoring equipment can be used to monitor the health status of elderly tourists in real time, but the last link of emergency response must be completed by professionals. Intelligent navigation can give accurate route suggestions, but the temperature reflected by manual service in emergency disposal cannot be replaced by machines. It is necessary to establish a collaborative mechanism that links technical early warning and manual response and complements each other.

Starting from the path of ecological synergy, we should improve the system of pluralistic co-governance. Silver hair people culture and tourism involves many departments such as culture and tourism, industry and information technology, civil affairs, transportation, and health. First, we should establish the system guarantee conducive to cross sectoral collaborative governance, improve the standard system of intelligent equipment and service process of silver hair people culture and tourism, clarify the norms for the collection and use of sensitive information such as personal health data and travel trajectories, and effectively prevent the risk of data leakage, so as to ultimately promote the benign interaction, co-construction and sharing of silver hair people culture and tourism ecology among government, enterprises, communities, and social organizations.

5. Summary

The era of digital intelligence has brought unprecedented opportunities and more complex challenges to silver hair people culture and tourism. Technology can be either a barrier to exclusion or a bridge to connect. The key is how we design it. Advocating a digital inclusive design ethics is not to let the elderly adapt to technology, but to let technology adapt to the elderly. It is not to be satisfied with functional compensation, but to pursue value-added experience. Digital intelligence technology can and has temperature. It is not only the development vision of the industry, but also the yardstick of social civilization that every member of the silver haired group can enjoy cultural and tourism life equally and safely.

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