



Research on the Evolution of Culture and Tourism Consumer Demand and Development Opportunities for Wellness Tourism under Digital-Intelligence Empowerment

Siyu He^{1,2,*}

¹Universiti Geomatika Malaysia Iqra Business School, Kuala Lumpur 54200, Malaysia

²Haikou University of Economics New Epoch School of Tourism and Civil Aviation Management, Haikou 571127, Hainan, China

**Author to whom correspondence should be addressed.*

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Abstract: Against the macro background in which digital technologies and intelligent applications are profoundly reshaping the culture and tourism industry, demographic changes, rising health awareness, and supportive national policies are jointly driving a marked increase in market demand for wellness tourism. Digital-intelligent technologies, such as big data, artificial intelligence, and the Internet of Things, not only transform consumers' information acquisition and decision-making processes but also fundamentally shift travel motivation from traditional sightseeing toward physical and mental health and in-depth experiences, thereby providing core momentum for industrial upgrading. Taking "digital-intelligence empowerment" as the analytical lens, this paper sorts out the internal mechanisms and main characteristics of the evolution of culture and tourism consumer demand, explores how the digital-intelligent transformation of culture and tourism scenarios restructures the supply structure and service models of wellness tourism, summarizes development opportunities arising from upgraded health demand, policy support and business-format innovation, and proposes pathway suggestions for governance optimization and product innovation.

Keywords: Digital-intelligence empowerment; Culture and tourism consumer demand; Wellness tourism

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1. Introduction

Driven by the digital economy and the "Healthy China" strategy, the structure of culture and tourism consumption and the provision of health services are undergoing significant changes. Digital-intelligent technologies such as big data, cloud computing and artificial intelligence now permeate the stages of travel decision-making, on-site experience and post-trip feedback, steering culture and tourism consumption away from extensive sightseeing toward refinement, interactivity and multi-value orientation. Rising awareness of health risks, accelerated population ageing and the accumulation of long-term stress mean that the public pays greater attention to physical-mental adjustment and lifestyle improvement during leisure

and vacation, and wellness tourism has evolved from a peripheral option into an important choice.

Against this practical backdrop, this paper, from the perspective of digital-intelligence empowerment, analyzes the mechanisms and characteristics of the evolution of culture and tourism consumer demand, examines how the digital transformation of culture and tourism scenarios reshapes the supply system of wellness tourism, and then identifies development opportunities for wellness tourism in terms of demand expansion, policy support and business-format innovation, so as to provide references for relevant policy-making and practical exploration.

2. Mechanisms and characteristics of the evolution of culture and tourism consumer demand under digital-intelligence empowerment

2.1. Driving mechanisms of digital-intelligent technologies for culture and tourism consumption behaviour

2.1.1. Data perception and user-profile construction

The widespread adoption of mobile terminals, online booking platforms and smart-scenic-area systems means that tourists leave behind high-frequency data traces when searching for destination information, comparing prices and making reservations, entering and exiting attractions, and using ancillary services. Platforms and destination managers build detailed user profiles on the basis of data such as browsing records, geographic location, length of stay, spending amount and health preferences, thereby identifying differentiated needs of various groups in leisure, wellness, family travel and study tours. The digital transformation of the tourism industry has significantly enhanced the visibility of consumer behaviour data, providing enterprises with more fine-grained demand insights and evidence for product matching.

2.1.2. Algorithmic recommendation and itinerary decision support

On the basis of user profiles, online travel platforms, regional smart culture-and-tourism platforms and large-model-based travel assistants use algorithmic recommendations to push information on destinations, hotels, wellness resorts and health-preserving itineraries to users, reducing information search costs and increasing the likelihood that wellness products are “discovered”. Studies have shown that personalized recommendations based on big data and artificial intelligence can enhance travel intentions, increase repeat purchases and willingness to pay a premium, and exert a significant “guiding” effect on consumer decision-making ^[1]. In some regions of China, province-level smart culture-and-tourism platforms targeting tourists have been launched, integrating intelligent itinerary planning, personalized recommendation and multilingual guiding functions, generating differentiated travel plans for tourists of different ages and health conditions, and thereby enabling wellness tourism products to match more precisely the needs of middle-aged and older adults, sub-healthy individuals and people under stress.

2.1.3. Immersive technologies and the shaping of experiential depth

Technologies such as virtual reality, augmented reality, naked-eye 3D, digital museums and online live streaming allow tourists to obtain pre-experiences of destinations before departure, reducing unfamiliarity and uncertainty. Smart scenic areas provide dynamic guiding, augmented-reality overlays, health-trail monitoring, and heart-rate and step-count feedback, enabling tourists to gain cultural experiences while simultaneously perceiving their own physical state in real time and strengthening the comprehensive experiential value of “exercise + healing”. Information-rich and highly interactive smart technologies help enhance tourist satisfaction and flow-like experiences, which in turn boost word-of-mouth communication and revisit intentions and are particularly important for the long-term cultivation of wellness-oriented products ^[2].

2.1.4. Smart service systems and the reconstruction of trust mechanisms

Services such as AI customer support, online medical consultation, intelligent translation, contactless check-in and

electronic payment significantly reduce the uncertainties and costs associated with travelling in unfamiliar places. Some destinations embed information on air quality, climatic comfort, distribution of medical resources and psychological counselling hotlines into their smart platforms, expanding traditional “scenic-spot services” into a “destination physical-and-mental health support system”^[3]. Digital technologies not only improve service efficiency and responsiveness but also enhance tourists’ trust in destinations and service providers through transparent information and traceable reviews, thereby providing institutional support for wellness-oriented customer segments with high requirements for safety and health protection.

2.2. Core characteristics of the evolution of culture and tourism consumer demand

2.2.1. Shift from sightseeing leisure to “physical-mental wellness + in-depth experience”

The impact of the pandemic and the accumulation of chronic stress have made health and emotional recovery an important component of travel motivation. Global data show that, in the post-pandemic period, the recovery pace of the wellness tourism market has been faster than that of the overall tourism market, with continuous growth in travel spending related to physical and mental health and a steady enrichment of products that focus on meditation, yoga, nature-based healing and dietary adjustment.

Consumers prefer destinations with better air quality, rich natural resources and well-equipped medical or rehabilitation facilities, combining vacation, exercise, psychological relaxation and lifestyle adjustment. Against this backdrop, the focus of culture and tourism demand is gradually shifting from “short-term visits” and “check-in photography” to “long-term stays”, “slow-paced living” and “physical-mental adjustment experiences”.

2.2.2. Shift from single price sensitivity to comprehensive value sensitivity

In a digital-intelligent environment, consumers can conveniently conduct horizontal comparisons across destinations in terms of price, ratings, health facilities, environmental indicators and transportation costs, so tourism decision-making is moving from “single price comparison” toward a “comprehensive value trade-off”.

Digital tools heighten consumers’ attention to service quality, hygiene and safety, and environmental friendliness; price is no longer the sole decisive factor, while overall experiential quality, health benefits and the fit with long-term lifestyles become new variables. For wellness tourism, products such as hot-spring therapy, forest wellness and integrated medical-care communities highlight professional qualifications, rehabilitation programmes and personalized services in their marketing. When booking, consumers pay closer attention to medical teams, course content and suitability criteria for different groups.

2.2.3. From mass homogeneous demand to segmented circle-based and scenario-based demand

Digital-intelligent technologies enable destinations to identify segmented customer groups and to build “circle-based” products around different age cohorts, health conditions and lifestyles. International data indicate that millennials and Generation Z focus more on emotional value and digital interaction in wellness consumption, middle-aged groups pay more attention to bodily function improvement and chronic-disease management, and older adults emphasise medical security and safe care. Under this differentiated trend, traditional standardized “health-resort vacations” are gradually extending into scenario-based wellness combinations such as “emotional-relief camps for stressed populations”, “parent-child nature-healing camps”, “long-stay communities for chronic-disease management”, and camps centered on farming, hiking or yoga. Through tag-based management and refined recommendation, digital-intelligent platforms precisely push these segmented scenarios to corresponding groups, making the structure of culture and tourism demand more diversified and multi-layered.

2.2.4. From limited offline feedback to end-to-end visualized evaluation

Before travelling, users extensively search online reviews and health-experience sharing posted by other tourists; during

travel, they record bodily sensations via short videos, live streams and social media; after travel, they often leave relatively detailed evaluations. These behaviours form a full-process data closed loop covering the “pre-trip, on-trip and post-trip” stages. Tourists’ experiences with smart technologies are significantly and positively correlated with their word-of-mouth communication, revisit intentions and willingness to pay, indicating that technological experience has become an important dimension for evaluating destinations ^[4]. For wellness tourism, effects that were previously difficult to quantify, such as improved sleep quality, reduced anxiety and changes in self-perception—are increasingly presented through data from wearable devices, subjective feeling scales and online reviews, further strengthening the weight of “perceived therapeutic efficacy” in travel decision-making.

2.2.5. From passive acceptance of supply to participatory co-creation and long-term relationships

With the support of digital-intelligent platforms, tourists are no longer passive recipients of pre-set routes and products; instead, they participate in itinerary design and content co-creation through online Q&A, preference selection and health-goal setting. Some destinations and wellness institutions continuously iterate courses, diets and exercise programmes around user feedback, forming a closed loop of “data collection–programme optimization–re-experience–re-evaluation” ^[5]. For destinations, technologies help not only to record one-off transactions but also to build long-term companionship relationships centered on wellness needs—for example, by providing extended services such as health consultation, online training camps and follow-up appointment booking, gradually transforming short-term travel into sustained support for wellness-oriented lifestyles.

3. Digital-intelligent transformation of culture and tourism scenarios and the restructuring of wellness tourism supply

3.1. Coordination among supply entities and integration of industrial ecosystems

Digital-intelligent technologies are promoting a shift in the culture and tourism industry from single-enterprise supply to cross-industry collaborative ecosystems.

Various participants in wellness tourism, including scenic areas, hotels, medical institutions, fitness and wellness centres, and community organisations, integrate resources and connect services through data-sharing platforms. For example, province-level smart culture-and-tourism platforms aggregate medical and health data, environmental monitoring data, and tourist behaviour data via unified interfaces, laying a foundation for cross-institutional services. Some demonstration zones for wellness tourism have already realized the interoperability of electronic health records between medical institutions and resorts, enabling tourists to receive personalized health monitoring and dietary advice during their stays, and forming an integrated service chain of “medical treatment–health cultivation–sightseeing”. This kind of coordination not only optimizes resource allocation but also promotes the evolution of wellness tourism from a marginal business format into a core segment of the culture and tourism industry.

3.2. Experiential product forms and deep integration of scenarios

Digital-intelligent transformation is pushing wellness tourism products to evolve from standardized projects into personalized, immersive scenarios. Traditional wellness products mainly consist of single services such as hot springs and massage. Under technological empowerment, however, product design increasingly emphasizes multi-sensory experiences and the integration of body and mind. For instance, some forest wellness bases combine vegetation-monitoring data with tourists’ physiological indicators to develop “dynamic healing trail” systems that automatically adjust routes and activity intensity according to tourists’ real-time heart rates and walking speed, thus achieving “scenery that adapts to the person”. Cultural-wellness products use technologies such as AR scenario reconstruction and digital intangible-cultural-heritage experiences to transform traditional cultural resources into interactive content for health cultivation. Such products not only meet health needs but also enhance the depth and richness of wellness experiences through the empowerment of local culture.

3.3. Integrated service models and extended value chains

Digital-intelligent technologies are driving a transformation of wellness tourism services from one-off transactions to full-cycle health management. By using the Internet of Things and cloud platforms, destinations can track changes in tourists' health data before, during and after travel, forming continuous health records. Some domestic wellness resorts have launched "wellness membership" schemes under which members, after checking out, can continue to receive personalized health reminders, online consultation and follow-up arrangements via apps, realizing a seamless connection between "short-term stays" and "long-term health management".

This model restructures the traditional tourism value chain by extending service coverage from accommodation and sightseeing to include health monitoring and lifestyle planning, thus enhancing customer stickiness and industrial added value.

From an industry perspective, digital-intelligent technologies not only improve operational efficiency but also reshape the logic of value creation in wellness tourism, upgrading it from "spatial consumption" to "investment in healthy time".

4. Development opportunities for wellness tourism from the perspective of digital-intelligence empowerment

4.1. Demand opportunities arising from upgraded health needs and market expansion of wellness tourism

Accelerated population ageing, heavier burdens of chronic diseases and mounting work pressure are causing cumulative growth in integrated needs for "health care, disease prevention and mental nourishment". The "Healthy China 2030 Planning Outline" establishes "incorporating health into all policies" as a national strategic goal, emphasizing the promotion of population health through environmental improvement, healthy-lifestyle advocacy and the development of the health service industry. This provides a policy basis for incorporating wellness tourism into the national health-governance system. In recent years, the number of enterprises registered in China and engaged in wellness, health cultivation and health management has reached several million, with hundreds of thousands newly added in the first quarter of 2025 alone, indicating rapid expansion of health-related service supply and markedly higher public acceptance of new products such as wellness vacations and health-oriented long stays. Structurally, the clientele of wellness tourism has expanded from mainly older adults to include working professionals, young sub-healthy groups and family segments. Young and middle-aged tourists pay more attention to emotional repair, weight management and exercise experiences; older people focus on medical security, rehabilitation conditions and long-term care; family groups emphasize inter-generational interaction and physical-mental relaxation in natural environments.

Through precise communication, content operation and community interaction, digital-intelligent technologies help different groups develop more nuanced understandings of wellness tourism and enable destinations to design more targeted products for these differentiated needs, laying a foundation for segmented market development and long-term growth.

4.2. Structural opportunities brought by digital-intelligent technologies for business-format innovation and cross-sector integration

Digital-intelligent technologies serve both as basic infrastructure and as a "central nervous system" connecting multiple sectors such as culture and tourism, medical care, elderly care, sports and agriculture.

At the product level, smart wearables, health-monitoring terminals and online health-assessment tools can be embedded into itinerary design. By linking data on steps, heart rate and sleep quality with destination environmental conditions and activity content, these tools provide personalized recommendations on exercise intensity and daily routines for different tourists. Such data-driven, "light-intervention" wellness services enhance the health-management attributes of tourism products without requiring large-scale investments in medical resources.

At the operational level, platform enterprises and destinations can mine online search behaviour, booking records and

review texts to identify promising wellness themes such as sleep improvement, emotional repair, weight management and chronic-disease support, and then combine these themes with local resources, including hot springs, forests, lakes, cultural heritage and sports facilities to develop distinct wellness itineraries and long-stay projects. Global and Chinese cases show that green, health-oriented tourism products that adopt intelligent experience design and content-based marketing often achieve higher levels of satisfaction and loyalty.

In terms of cross-sector integration, digital-intelligence empowerment provides an actionable pathway for integrated development across “medical care, elderly care, tourism, sports and agriculture”. On the one hand, medical institutions can use tele-consultation, shared electronic medical records and online follow-up systems to provide continuous services for tourists undertaking rehabilitation or convalescence in destinations, thus connecting the health-management chain linking “home–destination–medical institution”. On the other hand, rural and mountainous areas with relatively sound digital infrastructure can develop wellness products centered on farming experiences, forest therapy and local diets, enabling agriculture, forestry and health services to interact within the same spatial context. This not only opens up new channels for increasing farmers’ incomes but also offers urban residents wellness options that are closer to nature.

4.3. Opportunities for territorial resource optimization and sustainable development

Digital-intelligent technologies offer systematic solutions for integrating and optimizing wellness tourism resources at the regional level, creating important opportunities for enhancing industrial resilience and sustainability. By building regional “digital-twin platforms for wellness tourism”, managers can dynamically simulate tourist flows, environmental carrying capacity and utilization of public facilities, thereby enabling early warning and dispatch. For example, in areas rich in natural resources, the system can intelligently recommend multiple wellness trails based on real-time data on air quality, negative-oxygen-ion concentration and tourist density, achieving both visitor dispersion and ecological protection. For community-based wellness destinations, platforms can efficiently integrate fragmented resources such as homestays, family doctors and local food ingredients into a networked supply system. This digitalized management and intelligent allocation of territorial resources not only improves the smoothness and comfort of tourist experiences but also significantly reduces the pressure of industry operations on resources and the environment, steering wellness tourism toward intensive, efficient and green development and achieving a unity of economic and ecological benefits.

4.4. Opportunities for personalized services and business-model innovation

The deep application of digital-intelligent technologies makes it possible to provide personalized wellness services at scale, which in turn drives fundamental innovation in business models. Based on artificial intelligence and machine-learning algorithms, service systems can generate highly customized “healthy-living plans” for each tourist, covering the full itinerary from nutritional diets and exercise prescriptions to cultural and leisure activities. The realization of such personalized services pushes business models to shift from traditional “room-night plus ticket” bundled sales to value-oriented pricing centered on “comprehensive health solutions”. Some institutions have begun experimenting with subscription-based wellness services: after paying annual fees, tourists can periodically travel to destinations to receive adjustment programmes grounded in long-term health-data tracking. This model transforms one-off tourism consumption into an ongoing health-management relationship, enhancing customer loyalty and lifetime value while providing the industry with stable and predictable cash flows and reshaping the value chain and profit model of wellness tourism.

5. Pathways and suggestions for high-quality development of wellness tourism under digital-intelligence empowerment

5.1. Reshaping digital-intelligent culture and tourism governance systems with a health-oriented approach

Under digital-intelligence empowerment, governance of wellness tourism needs to shift from “scenic-area management”

to “regional health-space management”. On the one hand, health indicators such as air quality, climatic comfort, accessibility of medical resources and emergency-rescue capacity should be incorporated into culture and tourism planning and project-admission criteria, guiding wellness projects to interact with regional public-health systems and community health-care services.

Relevant departments can rely on regional data platforms to integrate multi-source data from culture and tourism, health, civil affairs and transportation, establish risk-warning and operation-monitoring mechanisms for wellness tourism, and dynamically manage tourist density, environmental carrying capacity and safety hazards. On the other hand, it is necessary to regulate the boundaries of collection and use of tourists’ health data under the premise of privacy protection and data security, improve information disclosure and authorization mechanisms, prevent excessive profiling and misuse, and enhance public trust in digital-intelligent wellness services, thereby laying an institutional foundation for high-quality development.

5.2. Promoting product innovation and service upgrading based on layered demand

Optimization of wellness tourism supply should be grounded in multi-level health needs and aim to build a differentiated and tiered product system. In terms of spatial layout, multi-level networks of wellness destinations can be developed around urban parks, suburban greenways, wellness towns and remote long-stay sites, providing diverse options for groups with different time budgets and physical conditions. In product design, combined packages focusing respectively on emotional soothing, functional recovery and daily care should be developed for stressed young people, middle-aged groups involved in chronic-disease management and older adults requiring long-term care. Through digital-intelligent platforms, a closed-loop service of “health check-up and assessment–programme matching–itinerary execution–effect feedback” can be realised. In operational models, culture and tourism enterprises can be encouraged to jointly build and share online service portals with medical institutions, sports organisations and community entities, and to explore multiple payment mechanisms such as membership and graded packages to increase repeat purchases and length of stay. With respect to human resources, it is important to cultivate interdisciplinary personnel who understand both health management and digital technologies as well as culture and tourism operations, and to continuously optimize service processes and experience design in practice, so that digital-intelligence empowerment can be transformed into tangible value and sustained competitiveness for wellness tourism.

6. Conclusion

Digital-intelligent technologies have deeply penetrated the entire chain of tourism consumption. They not only reshape consumers’ decision-making behaviours and experiential value, but also inject core momentum into the quality upgrading and sustainable development of wellness tourism by driving industrial-ecosystem integration, service-model innovation and value-chain extension. Looking ahead, seizing opportunities brought by digital-intelligent transformation, properly addressing the associated challenges and promoting the deep integration of technological applications and humanistic care constitute an inevitable pathway for unlocking the vast market potential of wellness tourism and meeting people’s growing needs for a better life.

Disclosure statement

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References

- [1] Tan Y, Jiang G, Merajuddin SS, et al., 2025, Analyzing the Impact of Digital Technology on Consumers’ Travel Intentions.

Journal of Innovation & Knowledge, 10(2): 100685.

- [2] Sustacha I, Baos-Pino JF, Valle ED, 2023, The Role of Technology in Enhancing the Tourism Experience in Smart Destinations: A Meta-Analysis. *Journal of Destination Marketing & Management*, 30: 12.
- [3] Amirulloh AF, Deliana D, Suyanto S, 2024, Digital Transformation in the Hospitality Industry: Improving Efficiency and Guest Experience. *International Journal of Management Science*, 4(2): 428–437.
- [4] Campayo-Sánchez F, Celdrán-Bernabeu MA, Martínez-Navarro J, et al., 2025, Unveiling the Use of Tourism Technologies in the Context of Smart Destinations: Are Tourists Ready? *Current Issues in Tourism*, 28: 1–15.
- [5] Wu W, Xu C, Zhao M, et al., 2024, Digital Tourism and Smart Development: State-of-the-Art Review. *Sustainability*, 16(23): 10382.

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