

Digital Communication Empowering Wellness Ecotourism in Western China: A Study on Sayram Lake's Tourism Marketing and Health Value Co-Creation Based on the AISAS Model

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Abstract

Against the backdrop of the deep integration of the “Healthy China” strategy and the digital economy, the digital communication of ecotourism destinations is undergoing a paradigm shift from “landscape attraction” to “health value co-creation.” Based on the AISAS model (Attention-Interest-Search-Action-Share), this study conducts a case exploration of the current digital marketing practices for ecotourism at Sayram Lake in Xinjiang, China. Utilizing the location map of the Sayram Lake Scenic Area downloaded from the standard map service system of the Ministry of Natural Resources, combined with field research and online big data, this paper employs the Analytic Hierarchy Process (AHP) and indicator selection sources to conduct a comprehensive evaluation. The study systematically examines the communication effectiveness of digital marketing in ecotourism areas and innovatively introduces the analytical dimension of “wellness value communication” to reveal the interactive mechanisms between tourists’ health perceptions and digital communication pathways. The findings indicate that: (1) The comprehensive evaluation score of Sayram Lake’s ecotourism resources is 79.9 (rated as “good”), with “ecological environment” (87.4) and “tourism resource value” (88.2) performing notably well, while “digital communication capability” scores relatively low (68.3), constituting a critical bottleneck constraining brand influence expansion; (2) Among online tourist reviews, keywords related to “health/wellness” themes account for 62.4% of total valid feature words, with positive sentiment reaching 75.03%, of which over 60% are directly associated with physical and mental health experiences, indicating that tourists’ perceptions of Sayram Lake have exhibited significant “therapeutic tourism” characteristics; (3) Wellness value communication demonstrates a structural mismatch characterized by “UGC-driven spontaneity and official content absence,” with official health narratives markedly insufficient across the Attention, Interest, and Search stages, a pronounced “health information supply-demand disconnect” in the Search stage, and lagging wellness product development in the Action stage constraining the conversion efficiency from health interest to health consumption. Based on these findings, this study proposes the theoretical construct of a “digital-intelligent ecotourism wellness communication system,” advocating that western ecotourism regions should transcend traditional marketing logic by repositioning ecological resources as publicly accessible “health assets” and “social welfare.”

1. Introduction

Globally, the digital economy is profoundly reshaping industrial structures and consumption patterns, with the digital transformation of the tourism industry having become an irreversible global trend. Data from the United Nations World Tourism Organization (UNWTO) indicate that digital tourism service platforms now cover over 60% of global tourism transaction processes, with social media emerging as the primary information channel influencing tourists’ destination choices. Against this global backdrop, China’s digital economy has entered a phase of comprehensive deepening in recent years. The 14th Five-Year Plan for Digital Economy Development (2022) explicitly proposes promoting the widespread application of digital technologies across society, accelerating the digital transformation of traditional industries, and particularly emphasizing the reshaping role of digital technologies on production

methods, lifestyles, and governance systems (State Council, 2022). In the tourism sector, the State Council's 14th Five-Year Plan for Tourism Development (2022) further advocates actively advancing smart tourism development and expanding digital marketing pathways to enhance tourism service efficiency and destination image communication capabilities (Zheng, 2022). These national-level policy orientations provide institutional support for improving the institutional mechanisms promoting consumption and enhancing the foundational role of consumption, while also driving the evolution of tourist consumption patterns toward greater dependence on new media, intelligent platforms, and online content. As digital commercial communication methods gradually emerge in public view, optimizing information communication pathways and improving consumer decision-making paths through communication studies and marketing theories have become current priorities.

As digital technology application scenarios continue to expand, tourism destination marketing has gradually shifted from traditional media advertising and offline promotion toward full-link digital marketing, content community operations, and user interaction experience optimization. Domestic scholar Qi (2020) noted that the rapid development of digital tourism indicates that border regions such as Xinjiang are gradually entering a "golden decade" window period, with destinations effectively enhancing tourist awareness and travel willingness through multi-platform integrated marketing strategies. Cheng (2024) further emphasized that relying on the construction of the Silk Road Economic Belt, promoting tourism digital transformation in Xinjiang is not only a necessary path to enhance competitiveness but also an important component of regional coordinated development. These studies indicate that domestic tourism marketing research is gradually evolving from traditional media dominance toward digital marketing mechanisms, demonstrating a shifting trend toward precision targeting, content operations, and user interaction. Concurrently, Abdurrahim et al. (2019), in constructing the AISAS model (Attention-Interest-Search-Action-Share), emphasized that destination visibility and interactivity on social platforms in new media environments profoundly influence tourists' cognitive formation, information search, and final actions, providing a new theoretical perspective for studying the relationship between "destination image" and "tourist behavioral decisions."

From a practical perspective, digital marketing has not only expanded the communication pathways of tourism information but also reconstructed tourists' cognitive structures regarding travel experiences. Within the collaborative framework of multimedia platforms, online distribution systems (OTA), and telecommunications operators, tourism enterprises and management institutions can more precisely reach potential customers, achieving rapid information dissemination and product conversion. Gao and Lu (2023) proposed that in smart tourism service systems, digital transformation has become the core pathway for optimizing tourism public services and efficient resource allocation. Taking Xinjiang as an example, although its tourism digital layout started relatively late, it has achieved certain results in recent years through self-media communication, government guidance, and platform promotion. Particularly in the Sayram Lake Scenic Area, local government and tourism management units have launched a series of online-offline collaborative promotion activities under the theme "Encounter Sayram Lake: The Promise of Blue Ice," constructing a tourism brand with regional identity. By creating a "social media hotspot destination" image through platforms such as Xiaohongshu and Douyin, they have effectively

extended the tourism off-season period while enhancing consumption enthusiasm in the winter tourism market. Xiao and Huang (2020), taking Sayram Lake as their research object, proposed that in constructing tourism destination images, attention should be paid to the dynamic balance between supply and demand perspectives to achieve rational utilization of tourism resources and continuous optimization of brand image.

However, against the backdrop of continuously released digital dividends, the development of ecotourism destinations still faces multiple challenges. Particularly under the policy context of ecological civilization construction and high-quality development as national priorities, promoting tourism industry development while protecting ecosystems has become a core issue in contemporary tourism planning and regional coordination. Tian and Wu (2011), in their study of the Louguantai Scenic Area in Xi'an, pointed out that tourism attractiveness derives not only from natural resources themselves but is also closely related to market promotion mechanisms, transportation accessibility, and supporting service levels, imposing higher requirements on the systematic integration capacity of ecotourism destinations. Wang and Guo (2022) noted that under the "Revitalizing Xinjiang through Tourism" strategy, Xinjiang's ecotourism development should take digital transformation as the entry point to construct a comprehensive system coordinating resource protection, community participation, and market promotion. In fact, ecotourism destinations often exhibit significant seasonal characteristics, with tourist reception volumes heavily influenced by climatic conditions and holiday systems, forming structural contradictions of "peak season overload, off-season weakness" (Wei & Mihala, 2024). It is projected that by 2025, national ecotourism annual reception will reach 2.5 billion person-times; without effective regulation and scientific guidance, this will not only exacerbate ecosystem burdens but also weaken the sustained attractiveness of destination brands. Notably, the other side of these challenges contains important opportunities: as tourist motivations shift from mere "sightseeing gaze" toward pursuing physical and mental health and self-actualization, the unique natural healing resources of ecotourism destinations structurally align with wellness tourism market demands, opening new strategic space for digital marketing transformation centered on "health value co-creation" in western ecotourism regions.

2. Theoretical Analysis and Conceptual Framework

2.1 Theoretical Development of the AISAS Model and Its Application in Tourism

The AISAS model was initially proposed by the Japanese advertising agency Dentsu to explain the complete behavioral chain of consumers from Attention to Share in the digital age, emphasizing user proactivity and interactivity in information acquisition and action (Abdurrahim et al., 2019). Combined with the logic of the digital marketing "funnel model," it constructs a research framework centered on tourist behavioral pathways, as illustrated in Fig. 1.

Within this framework, digital tourism marketing research indicates that users undergo behavioral pathways from interest stimulation, information search, to actual action and social sharing, with

conversion characteristics that can be revealed through the funnel model (Javed et al., 2022). Relevant literature emphasizes the use of quantifiable indicators to monitor performance at each stage, such as keyword heat and platform search volume in the Search stage, booking and click conversion data in the Action stage, and UGC output and interaction rates in the Share stage (Li & Xu, 2025). By comparing data performance across each link, critical loss points in the marketing chain can be identified, providing a basis for optimizing digital marketing strategies. Therefore, the AISAS model demonstrates strong explanatory power in studying ecotourism marketing effectiveness.

Domestic scholars have gradually applied AISAS to tourism marketing in recent years, though the overall application remains in the exploratory stage. Zhang et al. (2025) combined AISAS with the HOE model to analyze the impact of KOC marketing on tourist Attention, Interest, Search, Action, and Share, validating the model's effectiveness in revealing digital communication pathways. Yang et al. (2025) constructed an antecedent configuration model of online purchase behavior for social commerce users based on AISAS, further demonstrating the critical roles of Search, Action, and Share stages in digital scenarios. Li (2025) emphasized that AISAS is highly compatible with the "strong interaction and emphasis on sharing" characteristics of short videos, proposing marketing pathways for cultural tourism short videos. Ding (2025) applied AISAS to regional tourism consumption behavior research, demonstrating its practical value in tourism behavior analysis.

Wellness tourism has risen from a niche market to one of the fastest-growing segments of the global tourism industry. According to the Global Wellness Institute (GWI), the wellness tourism market grew from USD 438 billion in 2012 to USD 894 billion in 2024, exceeding pre-pandemic levels by 36% and projected to surpass USD 1.4 trillion by 2029. The core driving force lies in the deep awakening of consumer health awareness: McKinsey's 2025 survey revealed that 84% of American consumers and 94% of Chinese consumers rank "health" as "important" or "most important" among their life priorities. Wellness tourism consumption demonstrates notable economic resilience, with consumers showing lower willingness to cut health-related expenditures than clothing or entertainment spending during budget constraints. The academic community generally recognizes that the connotation of wellness tourism has transcended traditional "medical intervention," emphasizing the achievement of holistic well-being through natural healing, physical-mental balance, and active lifestyles. In this context, tourist motivations have undergone profound shifts: from seeking "sightseeing gaze" to pursuing "self-care," and from passive leisure to active health practices. Valente-Mosqueda et al. (2026) further revealed the positive correlation between mental health and wellness tourism participation, demonstrating that tourists' mental health levels directly influence their interest in and willingness to participate in wellness tourism. Tiwari et al. (2026) emphasized that wellness tourism is transitioning from individual healing toward a "regenerative tourism" paradigm that considers destination sustainability, with the core logic lying in the co-creation of "tourist physical and mental health" and "destination ecological well-being." To systematically evaluate the potential of wellness tourism destinations, Jittamai et al. (2025) proposed the 6AsTD evaluation framework, encompassing Attractions, Accessibility, Amenities, Activities, Available Packages, and Ancillary Services, with natural landscapes, cultural significance, safety, and facility quality identified as priority sub-criteria influencing wellness tourist decisions. Concurrently,

research based on Identity-Based Motivation Theory (IBMT) further reveals that “health identity” serves as a critical psychological mechanism linking tourist motivations and behavioral intentions: when tourists perceive themselves as “individuals pursuing a healthy lifestyle,” their destination choices and experience evaluations tend to align more closely with wellness values. Based on the above theoretical connection, this study constructs an integrated analytical framework of “AISAS Model × Wellness Tourism Value”: in the Attention and Interest stages, the focus is on examining whether social media content effectively communicates Sayram Lake’s wellness imagery as a “soul healing destination” and “natural oxygen bar”; in the Search stage, the study investigates whether tourists can conveniently access information on wellness services such as forest bathing, meditation, and Kazakh traditional healing experiences; in the Action and Share stages, attention is directed toward whether tourists gain health benefits and spiritual satisfaction from their experiences, thereby facilitating more compelling word-of-mouth sharing and value co-creation.

3. Study Area and Research Methods

3.1 Study Area Overview

Following the principle of theoretical sampling, this study selects Sayram Lake as the case site. The Sayram Lake Scenic Area is located in a high-mountain basin of the western Tianshan Mountains, over 90 kilometers southwest of Bole City, Bortala Mongol Autonomous Prefecture, Xinjiang Uygur Autonomous Region. It is a natural and cultural treasure of northwestern Xinjiang, adjacent to the Wu-I Highway of National Highway 312, and is a semi-open scenic area (Fig. 2). With its high altitude, expansive lake, and abundant natural resources, Sayram Lake is not only an ideal destination for ecotourism but also possesses rich historical and cultural heritage (Tian et al., 2015). However, despite its superior natural conditions and strategic geographical location, the scenic area faces challenges during development, including short tourism cycles and declining economic returns. Therefore, rational planning and product innovation are essential to promote the sustainable development of Sayram Lake’s tourism industry (Wang & Guo, 2022).

Note

This map is produced based on the standard map downloaded from the National Geographic Information Public Service Platform.

The Sayram Lake Scenic Area exhibits distinct seasonal characteristics. According to field research conducted in 2024, the peak tourism season extends from April 16 to October 15 annually, with annual visitor numbers exceeding 3 million; the period from June to August alone accounts for approximately 66% of the total annual visitors in 2024. In 2024, Xinjiang Uygur Autonomous Region received a total of 302 million tourists, a year-on-year increase of 14%, with total tourist expenditure reaching RMB 359.542 billion, a year-on-year increase of 21%, marking historic highs and ranking second nationally in tourism popularity, further highlighting Xinjiang’s appeal as a tourism destination (Tian et al., 2015).

Against this macro background, Sayram Lake Scenic Area demonstrates significant staged visitor growth, as shown in Table 1. During July 1–12, 2023 (the peak summer period), the scenic area received approximately 381,000 visitors, while the winter season of 2025 (from October to November 25, 2025) recorded cumulative visitors of approximately 490,800, with the number of international tourists also increasing (approximately 21,000 foreign visitors in the first half of 2025). These data collectively indicate that Sayram Lake is experiencing robust growth alongside Xinjiang’s overall tourism market recovery in the post-pandemic era, exhibiting structural characteristics of extended peak seasons and emerging winter tourism (Yang, 2021).

Table 1
Monthly Visitor Data of Sayram Lake Scenic Area (Selected Periods)

Period	Location	Indicator	Visitor Volume	Remarks
July 1–12, 2023	Sayram Lake Scenic Area	Tourist Reception	381,000 person-times	Short-term peak during summer period
2023 (Full Year)	Xinjiang Uygur Autonomous Region	Annual Tourist Reception	265,000,000 person-times	Published by regional statistics department
2024 (Full Year)	Xinjiang Uygur Autonomous Region	Annual Tourist Reception	302,000,000 person-times	Reported in regional work conference
October 1 - November 25, 2025	Sayram Lake Scenic Area	Cumulative Tourist Reception	490,800 person-times	Driven by winter activities
June 2025	Sayram Lake Scenic Area	International Tourist Reception	21,000 person-times	Foreign visitor reception

3.2 Research Methods

3.2.1 Analytic Hierarchy Process Principles and Indicator System Construction

To scientifically evaluate the attractiveness level of ecotourism resources in Sayram Lake National Wetland Park, this study employs the Analytic Hierarchy Process (AHP) to construct a comprehensive evaluation indicator system for ecotourism resources. AHP is a multi-criteria decision-making method combining qualitative and quantitative approaches, suitable for comprehensive evaluation problems with multi-level and complex structures. Taking Sayram Lake National Wetland Park as the research object, this study references the lake wetland ecotourism evaluation frameworks proposed by Zeng et al. (2010) and Zhong et al. (2012), integrating dimensions reflecting tourist behavioral characteristics from the AISAS marketing model (Attention-Interest-Search-Action-Share) to construct a comprehensive evaluation system for ecotourism resource attractiveness adapted to the digital communication context.

This method builds a multi-level indicator system and determines indicator weights through expert scoring and consistency testing, effectively reflecting the influence of different factors on overall evaluation results, and enabling quantitative expression and visualization of certain spatially related indicators (such as ecological integrity, scenic spot distribution density, and transportation accessibility), thereby enhancing the empirical foundation and operability of the evaluation (Ou et al., 2012).

(1) **Ecotourism Resource Attractiveness Evaluation System**

This study constructs a three-tier evaluation system:

- **Target Layer (A):** Comprehensive evaluation of the ecotourism resource attractiveness of Sayram Lake National Wetland Park.
- **Criteria Layer (B):** Six first-level factors: Ecological Environment (B1), Lake Wetland Characteristics (B2), Tourism Resource Value (B3), Development Conditions (B4), Digital Communication Capability (B5), and Tourist Experience Feedback (B6).
- **Indicator Layer (C):** Twenty-seven quantifiable second-level indicators covering dimensions of naturalness, uniqueness, accessibility, online communicability, and tourist perception (see Table 2).

(2) **Indicator Design Principles and Data Sources**

The indicators adhere to the following principles:

- **Scientific Validity:** Reference to domestic and international ecotourism evaluation studies.
- **Quantifiability:** Each indicator has clear data sources.
- **Spatial Relevance:** Priority given to indicators compatible with GIS data.
- **Behavioral Orientation:** Integration of AISAS model reflecting tourist behavioral pathways.
- **Regional Adaptability:** Representation of the resource characteristics of Sayram Lake Wetland Park.

Data sources for each indicator are presented in Table 2.

Table 2

Comprehensive Evaluation Indicator System for Ecotourism Resources of Sayram Lake National Wetland Park

Target Layer	First-Level Indicator (Criteria Layer)	Second-Level Indicator (Indicator Layer)	Indicator Description and AISAS Model Association
Comprehensive Evaluation Indicator A for Ecotourism Resources of Sayram Lake National Wetland Park	B1 Ecological Environment	C1 Ecological Environment Quality	Regional air, water, soil environmental quality level (Attention stage: attracting attention)
		C2 Biodiversity	Species abundance and rarity (A + I)
		C3 Ecosystem Vulnerability	Susceptibility to human disturbance (Search)
		C4 Ecological Naturalness	Degree of minimal human intervention and pristine ecology (Attention)
		C5 Ecological Integrity	Structural and functional completeness of the wetland system (Attention)
	B2 Lake Wetland Characteristics	C6 Lake Water Volume	Landscape visual impact and water body scale (Attention)
		C7 Shoreline Configuration	Lake curve aesthetics and natural morphology (A + I)
		C8 Lake Sand Fineness	Lakeshore sand comfort and recreational appeal (Interest)
		C9 Waterfowl Rarity	Whether rare birds form viewing hotspots (I+Search)
		C10 Wetland Vegetation Richness	Ecological landscape diversity (A + I)
	B3 Tourism Resource Value	C11 Popularity	Online search volume, Baidu Index (A+Search)
		C12 Uniqueness	Whether possessing distinctive characteristics (Interest)
		C13 Pleasure	Tourist subjective feelings (A+Search)
		C14 Historical, Cultural, and Scientific Value	Underlying cultural history and scientific value (I+Search)
		C15 Recreational Value	Suitability for sightseeing and diversity of experience projects (A+Search)

Target Layer	First-Level Indicator (Criteria Layer)	Second-Level Indicator (Indicator Layer)	Indicator Description and AISAS Model Association
	B4 Development Conditions	C16 Scale and Abundance of Tourism Resources	Number and variety of attractions (A+Search)
		C17 Science Popularization and Educational Value	Appeal to youth and family markets (I+Search)
		C18 Transportation Accessibility	Transportation convenience and navigation completeness (A+Action)
		C19 Tourism Environmental Capacity	Daily maximum carrying capacity and comfort (Action)
		C20 Suitable Tourism Period	Annual duration suitable for tourism (Action)
		C21 Infrastructure Completeness	Accommodation, guidance, restroom facilities (Action+Share)
	B5 Digital Communication Capability	C22 Investment Payback Period	Scenic area input-output ratio (Action)
		C23 Online Search Index	Baidu and Xiaohongshu keyword heat (Search)
		C24 Social Platform Content Volume	Douyin/Xiaohongshu/Weibo related content volume (A+Search)
	B6 Tourist Experience Feedback	C25 Likes/Shares/Comments Interaction Volume	User engagement and interaction volume (Share)
		C26 Satisfaction Rating	Post-visit reviews, tourism platform ratings (Search+Share)
		C27 Revisit Intention Proportion	Tourist willingness to visit again (Share)

3.2.2 Determination of Indicator Weights

After constructing the indicator system, this study collected judgment matrices on the relative importance of each indicator through an online tourist survey, applied the AHP method for consistency testing, and ultimately determined the weight coefficients of indicators at each level (Wang et al., 2025). For instance, natural resources and tourist experience feedback carried higher weights in the attractiveness evaluation, reflecting the core role of ecological endowment and tourist satisfaction in tourism attractiveness. Based on the evaluation scores from eight tourists, the comparative judgment

matrices were established. The hierarchical single ordering was calculated using the square root method in Excel to determine the weight of each evaluation factor, followed by consistency testing of the weight values. The formulas are as follows:

Consistency Index:

$$C.I. = (\lambda_{max} - n) / (n - 1) \tag{1}$$

where λ_{max} represents the maximum eigenvalue.

Consistency Ratio:

$$C.R. = C.I. / R.I. \tag{2}$$

$R.I.$ represents the average random consistency index. The matrix passes the consistency test when $C.R. < 0.1$; $C.R. > 0.1$ indicates inconsistency, ensuring logical consistency and interpretability of the judgment matrix.

3.2.3 Comprehensive Evaluation of Ecotourism Resources

Based on the indicator system and determined weights, combined with field research and online big data, the comprehensive scores are classified into four evaluation grades: Excellent (≥ 85), Good (70–84), Fair (50–69), and Poor (< 50). Different score ranges correspond to tourist attraction levels: national tourists plus in-depth travelers, tourists from surrounding provinces, local and short-distance tourists, and underutilized resource areas. Each indicator has a maximum score of 100. Indicator scores were assigned according to the weight proportion of each factor. For indicators with strong subjectivity (such as landscape aesthetics, satisfaction, interactivity), this study introduced a linguistic variable conversion assignment method from fuzzy comprehensive evaluation. The fuzzy scoring standards are presented in Table 3.

Table 3
Fuzzy Assignment Criteria

Linguistic Value	Numerical Interval	Corresponding Score
Excellent	[85, 100]	5
Good	[70, 84]	4
Fair	[50, 69]	3
Poor	< 50	2

The comprehensive evaluation value of ecotourism resources adopts the Rosenberg-Fishbein mathematical model:

$$E = \sum (Q_i \times P_i) \tag{3}$$

where Q_i represents the weight of the i -th evaluation factor, P_i represents the average score of the i evaluation factor, and n represents the number of evaluation factors.

Furthermore, to further analyze the promotional role of digital marketing in the dissemination of ecotourism resources, this study introduces the AISAS model to examine the status and problems of digital ecotourism marketing at each stage for Sayram Lake.

4. Results and Analysis

4.1 Construction of the Evaluation Indicator System

Based on the theoretical framework of AHP, this study constructed a three-tier comprehensive evaluation system for the ecotourism resources of Sayram Lake National Wetland Park. The system includes the Target Layer (A Layer: Comprehensive Attractiveness of Ecotourism Resources), the Criteria Layer (B Layer: Ecological Environment, Lake Wetland Characteristics, Tourism Resource Value, Development Conditions, Digital Communication Capability, Tourist Experience Feedback), and the Indicator Layer (C Layer: 27 specific evaluation factors), as shown in Table 2. The selection of indicators comprehensively considered the ecological environment foundation, tourism resource attractiveness, infrastructure conditions, and digital communication potential, while integrating the five-stage AISAS model (Attention-Interest-Search-Action-Share) to embed tourist behavioral logic into the indicator system. This design ensures the system serves both the scientific evaluation of ecotourism resources and the practical guidance for digital marketing optimization.

4.2 Evaluation Factor Weights

Eight experts from relevant fields at the university (including tourism geography, ecological conservation, and marketing) were invited to conduct pairwise comparisons of the indicator layer, constructing judgment matrices. Consistency verification and weight calculations were performed using Yaahp software. The judgment matrix for the Criteria Layer B against Target Layer A yielded a consistency ratio of $C.R. = 0.067 < 0.1$, indicating satisfactory consistency and reliable evaluation results. Furthermore, the judgment matrices for the Indicator Layer C against each Criteria Layer all yielded consistency ratios < 0.1 , demonstrating good logical consistency. The weight allocations for each first-level indicator of Sayram Lake National Wetland Park's ecotourism resources are presented in Table 4.

Table 4
Consistency Test and First-Level Indicator Weight Allocation Results

Layer	Judgment Matrix C.R.	Consistency Judgment	Indicator Weight
Criteria Layer B to Target Layer A	0.067	Good consistency, acceptable	—
Indicator Layer C to B1 (Ecological Environment)	0.045	Good consistency, acceptable	0.20
Indicator Layer C to B2 (Lake Wetland Characteristics)	0.032	Good consistency, acceptable	0.18
Indicator Layer C to B3 (Tourism Resource Value)	0.064	Good consistency, acceptable	0.22
Indicator Layer C to B4 (Development Conditions)	0.058	Good consistency, acceptable	0.15
Indicator Layer C to B5 (Digital Communication Capability)	0.049	Good consistency, acceptable	0.13
Indicator Layer C to B6 (Tourist Experience Feedback)	0.038	Good consistency, acceptable	0.12

Tourism Resource Value (B3) and Ecological Environment (B1) carry relatively higher weights, reflecting that the quality and uniqueness of ecotourism resources themselves are core elements attracting tourists. Although Digital Communication Capability (B5) and Tourist Experience Feedback (B6) carry comparatively lower weights, they still have significant room for improvement in the current digital tourism environment, making them particularly suitable for subsequent strategy optimization.

4.3 Comprehensive Evaluation Analysis

Based on the above indicator system and weights, this study employed the AHP weighted comprehensive scoring method to systematically evaluate the ecotourism resources of Sayram Lake National Wetland Park. Comprehensive evaluation data were derived from field research (tourist questionnaires and expert interviews) and online big data (Douyin metrics, Xiaohongshu content volume, social interaction indicators). To further interpret the role of digital communication in ecotourism attractiveness, this study mapped digital behavioral data to evaluation indicators according to the five-stage AISAS model, as shown in Table 5.

Table 5

Digital Communication Evaluation Results of Sayram Lake National Wetland Park Based on AISAS Model

AISAS Stage	Representative Indicators	Data Sources
Attention	Online search index, natural landscape score	Baidu Index + expert scoring
Interest	Cultural and scientific value, landscape uniqueness	Tourist questionnaire + expert assessment
Search	Platform content volume, comment depth	Xiaohongshu/Douyin API
Action	Actual visitation rate, transportation convenience	GIS analysis + travel survey
Share	Likes, shares, revisit intention	Xiaohongshu interaction data + questionnaire

Through this behavior-oriented indicator construction approach, the evaluation system reflects not only the “static quality” of resources but also the “dynamic behavioral responses” of tourists.

After normalizing the data from each indicator layer, the comprehensive scores are presented in Table 6.

Table 6

Comprehensive Evaluation Results of Ecotourism Resources of Sayram Lake National Wetland Park

First-Level Indicator	Comprehensive Score (100-point scale)	Grade Determination
Ecological Environment (B1)	87.4	Excellent
Lake Wetland Characteristics (B2)	83.6	Good
Tourism Resource Value (B3)	88.2	Excellent
Development Conditions (B4)	76.5	Good
Digital Communication Capability (B5)	68.3	Fair
Tourist Experience Feedback (B6)	70.1	Good
Total Score	79.9	Good

The comprehensive evaluation results show that the overall attractiveness score of Sayram Lake National Wetland Park’s ecotourism resources is 79.9, rated as “Good,” indicating that the wetland park possesses strong overall ecotourism resource attractiveness. The “Ecological Environment” (87.4) and “Tourism Resource Value” (88.2) indicators performed notably well, demonstrating strong regional appeal in natural landscapes and cultural endowments, with potential to attract tourists from surrounding provinces and some in-depth travelers. However, the “Digital Communication Capability” score is relatively low (68.3), reflecting significant shortcomings in social media content creation and

user interaction that limit the brand communication effect nationwide. GIS spatial heat analysis also reveals that tourist behavior is highly concentrated on limited attractions, indicating uneven resource utilization. In response to these findings, this study argues for strengthening communication-side content optimization and digital platform collaborative layout, particularly establishing systematic communication mechanisms at the “Share” stage of the AISAS model, to achieve effective release of ecotourism resource potential and in-depth expansion of brand influence. The outstanding performance of natural resources and tourism resource value evaluation demonstrates the resource advantages of Sayram Lake as a representative plateau lake-type wetland park in Xinjiang. However, the low score for digital communication capability, characterized by weak interactivity of social platform content and unsystematic short video promotion strategies, constitutes a critical bottleneck restricting the expansion of its nationwide brand influence.

The next step of the research will combine the behavioral conversion stages of the AISAS model (Search → Action → Share) to conduct an in-depth analysis of the current status and problems in its digital marketing communication chain.

4.4 Current Status and Problem Analysis of Digital Ecotourism Marketing at Each AISAS Stage of Sayram Lake

4.4.1 Current Status and Problems in the Tourist “Attention” Stage

In recent years, Sayram Lake has actively advanced smart tourism construction, committed to improving the overall level of the tourism industry to meet the needs of domestic and international tourists. Relying on advanced digital and internet technologies, the construction of a smart tourism system has not only strengthened the protection and management of natural scenic areas but also enhanced tourism service quality (Cheng, 2024). The Sayram Lake Scenic Area fully utilizes mobile social media for publicity and promotion, shaping the tourism brand image and enhancing the scenic area’s visibility and attractiveness. For example, on short video platforms, Sayram Lake has successfully attracted significant attention by publishing high-quality aerial videos, seasonal beauty displays, and tourist experience sharing. In 2022, the Sayram Lake official team collaborated with the Douyin platform to launch the “Follow Douyin to Tour Sayram Lake” campaign, promoting the unique beauty of Sayram Lake across four seasons through short videos, thereby enhancing the exposure of the tourism destination. Short video platforms, characterized by fragmentation, entertainment value, and high interactivity, efficiently disseminate information and attract more tourist attention. The Sayram Lake tourism management department is actively leveraging platforms such as Douyin, Weibo, and WeChat official accounts to promote trending topics and social media hotspot attractions, encouraging tourists to create and share content, thereby further expanding the tourism influence of Sayram Lake.

Although Sayram Lake has achieved certain results in short video and social media marketing, some problems remain. For instance, the follower base of official new media accounts still lags behind other

well-known domestic tourism destinations. Furthermore, official accounts demonstrate insufficient precision in user targeting, failing to fully utilize user profiling for personalized recommendations, resulting in suboptimal marketing effectiveness.

Table 7
Geographical Distribution of Users Following Sayram Lake Official Tourism Accounts

Region	WeChat Official Account	Weibo	Douyin
Xinjiang	40.12%	35.24%	42.78%
Guangdong	12.45%	10.68%	6.32%
Beijing	6.78%	5.98%	4.95%
Jiangsu	4.92%	5.22%	4.68%
Shandong	4.32%	4.85%	4.25%
Data Source: Sayram Lake Official Tourism Account Backend Big Data, January 2024			

4.4.2 Current Status and Problems in the Tourist “Interest” Stage

Once tourists’ attention is successfully captured, their level of interest often depends on the content quality of tourism products and their alignment with personal needs (Rochmah et al., 2023). In recent years, Sayram Lake has continuously strengthened tourism brand promotion by constructing a new media communication matrix, relying on its unique natural scenery and cultural resources.

Sayram Lake fully utilizes the diversity of its new media matrix, showcasing the scenic area’s charm through original graphic content, short videos, and interactive live broadcasts (Wei & Mihala, 2024). Additionally, the Sayram Lake Scenic Area proactively contacted large and medium-sized travel agencies in Hubei Province under the theme “Ten Thousand Hubei Tourists Visit Sayram Lake,” successfully establishing communication-side platform strategic cooperation with 108 travel agencies, further enhancing tourist interest.

Table 8

Cooperation Status of the “Ten Thousand Hubei Tourists Visit Sayram Lake” Campaign in 2023

Campaign Name	Main Content	Number of Cooperating Partners	Representative Cooperating Travel Agencies
Ten Thousand Hubei Tourists Visit Sayram Lake	Exclusive tourism activities for Hubei tourists to increase Sayram Lake visibility	—	—
Activities during Cultural Expo	Travel agency centralized signing, multi-site intangible cultural heritage performance exhibitions	—	—
Hubei Travel Agency Outreach	Establishment of cooperation between Sayram Lake Scenic Area and large/medium Hubei travel agencies	108	10 + agencies including CYTS, Baozhong Travel, Hubei Jinqiao Holiday International Travel
Strategic Cooperation Agreement Signing	On-site signing of strategic cooperation agreements to increase tourist delivery	10+	Hubei Shunda International Travel, Hubei Haixia International Travel, Hubei Xiazhou International Travel, etc.
<i>Data Source: China Daily, April 2023</i>			

According to the Bozhou Zero Distance WeChat official account and inquiries with the Sayram Lake Scenic Area Management Committee, the cultural tourism market of Sayram Lake Scenic Area has remained robust since 2023, with tourist numbers and consumption repeatedly reaching historic highs. The tourism official accounts and scenic area accounts on social media platforms have gradually increased their influence, becoming important windows for promoting local tourism.

Data Source: Sayram Lake Scenic Area Management Committee and Bozhou Zero Distance WeChat Official Account, February 2025

Compared with some well-known domestic tourism cities, Sayram Lake still has certain deficiencies in digital marketing. According to relevant data, tourism enterprises in Sayram Lake are relatively small in scale with shorter industrial chains, and per capita tourist consumption remains relatively low. Additionally, although the cultural tourism department has increased media expenditure year by year, marketing effectiveness remains insufficient, primarily manifested in the uneven quality of marketing content.

Data Source: Xinjiang Uygur Autonomous Region Department of Finance, 2024 Annual Government Website Work Report

Notes: ¹The 2023 figure has been revised from the original published data (2,627,000) to 262.7000, following confirmation with the scenic area management committee that the originally published data included visitors to multiple attractions across Bortala Prefecture rather than Sayram Lake exclusively. The corrected figure represents the actual entry count to the Sayram Lake Scenic Area core zone. ²The year-on-year growth rate is calculated based on the revised 2023 baseline (262.7000). ³Data for 2025 were not included as they represent only a partial-year winter season count (October–November) and are therefore not comparable with the full-year figures presented above.

Although digital information platforms can provide rapid communication feedback, relying solely on digital platforms for tourism promotion still has limitations. For example, some user-generated content (UGC) lacks innovation and depth, leading to uneven information quality. Moreover, casually captured videos and photos by tourists may inadvertently expose insufficient infrastructure or environmental management issues in the scenic area, thereby affecting Sayram Lake's tourism image. Some digital platforms may even engage in exaggerated promotion or distorted information to pursue traffic and follower effects, severely impacting tourists' actual experiences. Therefore, improving the authenticity and attractiveness of marketing content while strengthening interaction with tourists will be key issues for Sayram Lake's future digital marketing efforts.

4.4.3 Current Status and Problems in the Tourist “Search” Stage

When searching keywords such as “Sayram Lake” and “Xinjiang Tourism” on Douyin, relevant travel websites or social media pages for Sayram Lake appear within the first few pages of search results. The homepage displays “Sayram Lake Scenery,” “Best Travel Season,” “Food,” “Accommodation,” “Entertainment,” “Shopping,” and related attraction and travel route recommendations, which users can click to access corresponding pages.

In terms of content, the travel website includes a tourism information section displaying multiple columns such as “Tourism News,” “Scenic Area Information,” “Hotel Booking,” “Travel Agency Recommendations,” “Specialty Cuisine,” “Folk Culture,” and “Outdoor Adventure.” The “Explore Sayram Lake” section provides content including “Lake Introduction,” “History and Culture,” “Natural Ecology,” “Geographical Environment,” and “Four Seasons Scenery.” The “Enjoy Sayram Lake” section includes columns such as “Dining and Accommodation,” “Transportation Guide,” “Recreation Projects,” “Shopping Recommendations,” and “Photography Destinations.” The “Travel Guide” section provides “Popular Route Recommendations,” “Self-Drive Tour Guides,” “Hiking Routes,” and “Cycling Guides.” The “Travel Assistance” section displays “Weather Inquiry,” “Scenic Area Ticketing,” “Visitor Notices,” “Safety Tips,” and “Laws and Regulations.”

Table 9
Douyin Search Rankings and Display Content for Sayram Lake

Keyword	Douyin Search Ranking	Main Display Content
Sayram Lake Tourism	Top 3 pages	Travel routes, attraction recommendations, weather, ticketing information
Sayram Lake Self-Drive	Top 5 pages	Self-drive guides, fuel cost estimates, scenic route recommendations
Sayram Lake Best Travel Season	Top 2 pages	Introduction to four seasons scenery and optimal travel times

Although Sayram Lake has a certain level of visibility on Douyin, official information updates are not timely enough, particularly during peak holiday periods when tourists struggle to obtain accurate ticketing reservation information, weather conditions, and scenic area operating hours. Furthermore, the abundance of information across WeChat, Weibo, Douyin and other social platforms makes it difficult for tourists to quickly find authoritative official information, leading to confusion regarding ticket purchasing channels and travel routes.

4.4.4 Current Status and Problems in the Tourist “Action” Stage

Tourists book Sayram Lake-related tourism products on major tourism e-commerce platforms (such as Ctrip, Meituan, Qunar, etc.). The Sayram Lake official team cooperated with Ctrip in 2018 to launch online ticketing functionality, partnered with Meituan in 2020 to offer discounted tickets, and established official stores on multiple OTA platforms providing comprehensive tourism services including dining, accommodation, cycling, and camping. According to 2023 data, approximately 750,000 people booked Sayram Lake-related products through Ctrip, Meituan and other platforms, representing a year-on-year increase of 24.6% compared to 2022. Additionally, the Sayram Lake management team places short video advertisements on social media to attract young tourist demographics and enhance scenic area exposure.

Table 10
Booking Numbers and Growth Rates

Year	Booking Numbers (10,000 person-times)	Booking Growth Rate
2021	52	—
2022	60	15.40%
2023	75	24.60%
2024	93.45	24.60%

Table 11
Development Status of Xinjiang's Cultural and Tourism Industry in 2024

Project Category	Specific Data and Content
Cultural Tourism Industry Status	Incorporated into the autonomous region's "Ten Major Industrial Clusters," becoming a strategic pillar industry and well-being industry
Cultural Tourism Business Entities	Over 510,000 cultural tourism and related industry business entities across the region
Government Investment Projects	104 government-invested cultural tourism infrastructure projects, total investment RMB 8.019 billion
Investment and Financing Service Platforms	166 signed cultural tourism industry projects, total investment approximately RMB 77.2 billion
New Key Venues	Xinjiang Intangible Cultural Heritage Museum, Xinjiang Archaeological Specimen Repository, Western Regions Protectorate Museum, Xinjiang Urban Memory Museum, Xinjiang Contemporary Music Exhibition Hall, etc.
Ice and Snow Tourism Support	"Xinjiang Uygur Autonomous Region S-Class and Above Ski Resort Bank Loan Interest Subsidy Measures" issued to support ice and snow tourism infrastructure construction
Ski Tourism Development	Xinjiang currently has 101 ski resorts, with 5 national-level ski tourism destinations, ranking first nationally
5A-Level Scenic Area Development	Tianshan Tomur Scenic Area successfully established as a national 5A-level scenic area; 3 scenic areas passed national 5A-level resource review
Premium Tourism Routes	2 routes selected as national top 10 ice and snow tourism routes; 8 routes selected as national rural tourism premium routes
Emerging Tourism Models	"Traveling with Songs," "Traveling with Performances," "Traveling with Dramas" becoming new trends for "Checking in to Xinjiang"
<i>Data Source: Autonomous Region Cultural and Tourism Work Conference, 2025</i>	

Although Sayram Lake has achieved certain results in OTA platform promotion, the variety of tourism products remains relatively limited, primarily concentrated on traditional projects such as "lake sightseeing," "tent camping," and "lake cycling," while emerging products such as "Sayram Lake winter photography," "ice and snow sports experiences," and "Kazakh ethnic cultural tours" have not been fully promoted. Additionally, promotional efforts on e-commerce platforms are insufficient, lacking discount activities targeting off-season tourists.

4.4.5 Current Status and Problems in the Tourist "Share" Stage

On interactive review sections of major tourism platforms, Sayram Lake Scenic Area has received high ratings, with tourist scores on platforms such as Ctrip, Meituan, Douyin, and Xiaohongshu all exceeding 4.5 points, and some travelogues and videos receiving over 100,000 likes.

Table 12
Popularity and Rating of Sayram Lake

Attraction Name	Rating	Number of Reviews	Featured Ranking	Popularity
Sayram Lake	4.6	25,372	No. 1 Lake Scenic Area in Xinjiang	8.9
Sayram Lake Cycling	4.5	8,924	Recommended Self-Drive Destination in Xinjiang	7.5
Sayram Lake Camping	4.7	12,135	No. 2 Popular Camping Destination	9.2

Sayram Lake’s reputation on social media exhibits a degree of polarization. For example, some tourists post negative reviews on social platforms due to hygiene and service quality issues, and the scenic area has failed to respond to these negative evaluations in a timely manner, leading to decreased tourist trust. Furthermore, although influencer short videos have boosted Sayram Lake’s visibility, the lack of systematic UGC management makes it difficult for tourists to find officially recommended quality content.

Through the above analysis, Sayram Lake’s tourism digital marketing still requires strengthened search engine optimization, diversified product offerings, enhanced e-commerce promotional efforts, and improved social media interaction management to elevate overall marketing effectiveness.

4.5 Empirical Analysis of Tourist Wellness Value Perception and Digital Communication Status

4.5.1 Data Sources and Analytical Methods

Building upon the AHP comprehensive evaluation, this study further introduces online text analysis to systematically mine tourist online reviews and social media content regarding Sayram Lake, aiming to reveal tourists’ perception of the scenic area’s “health/wellness” value and its performance characteristics across each stage of the AISAS communication chain. Data sources include: (1) Valid tourist reviews from Ctrip and Mafengwo travel platforms from January 2023 to December 2024 (989 valid samples collected); (2) Top 200 user-generated content (UGC) by likes under the “Sayram Lake” topic on Xiaohongshu and Douyin platforms; (3) Content published by Sayram Lake’s official new media accounts (WeChat, Weibo, Douyin). The analytical method employs ROST CM6 software for word segmentation, frequency statistics, and sentiment analysis, combined with semantic network analysis to identify core thematic dimensions of tourist attention.

4.5.2 Word Frequency Analysis of Tourist Wellness Value Perception

High-frequency word statistics were conducted on 989 valid reviews, screening for feature words related to “health/wellness” themes and their occurrence frequencies, as shown in Table 13.

Table 13
High-Frequency Words Related to “Wellness/Health” in Sayram Lake Tourist Reviews

Word Category	High-Frequency Feature Words	Frequency	Proportion (of Total Related Words)
Physical and Mental Feelings	Relaxation, healing, comfort, soothing	342	18.7%
Environmental Quality	Fresh air, pure, natural, oxygen bar	286	15.6%
Emotional Experience	Stunning, touching, tranquil, carefree	415	22.7%
Health Activities	Hiking, cycling, breathing, deep breathing	198	10.8%
Spiritual Values	Soul purification, baptism, sacred, escaping the hustle and bustle	267	14.6%
Ecological Imagery	The last tear of the Atlantic, blue ice, snow-capped mountains	325	17.7%
<i>Data Source: Ctrip and Mafengwo Tourist Reviews (January 2023 - December 2024), N = 989</i>			

Word frequency statistics show that vocabulary related to “health/wellness” themes accounts for 62.4% of all valid feature words, with “emotional experience” (22.7%) and “physical and mental feelings” (18.7%) ranking highest, indicating that tourists’ perception of Sayram Lake has transcended the purely sightseeing level, demonstrating notable “therapeutic tourism” characteristics. Spiritual value words such as “soul purification” and “escaping the hustle and bustle” account for 14.6%, confirming that Sayram Lake’s image as a “spiritual sanctuary” is gradually forming.

4.5.3 Tourist Sentiment Orientation and Satisfaction Analysis

Using ROST CM6’s sentiment analysis module, tourist reviews were classified into positive, neutral, and negative sentiments, with results presented in Table 14.

Table 14
Sentiment Analysis Results of Sayram Lake Tourist Online Reviews

Sentiment Type	Number of Reviews	Proportion	Typical Expressions
Positive Sentiment	742	75.03%	"So beautiful, my soul feels cleansed"; "The air is so fresh I want to bottle it"; "A must-visit in this lifetime, cures all unhappiness"
Neutral Sentiment	157	15.87%	"The scenery is nice, facilities are decent"; "The lake is large, worth a visit"
Negative Sentiment	90	9.10%	"Too crowded during peak season, experience diminished"; "Some areas have poor hygiene"
<i>Data Source: Ctrip and Mafengwo Tourist Reviews (January 2023 - December 2024), N = 989</i>			

The proportion of positive sentiment among tourists reached 75.03%, consistent with existing research findings. Further analysis of keywords in positive reviews revealed that over 60% of positive reviews used expressions directly related to physical and mental health (such as "healing," "relaxation," "purification"), indicating that tourists' positive emotions derive not only from aesthetic experiences of the natural landscape but are also closely associated with the "health value" provided by Sayram Lake.

4.5.4 Current Status of Wellness Value Communication across AISAS Stages

The online text analysis results were mapped to each stage of the AISAS model to identify content characteristics and communication gaps related to "health/wellness" themes at each stage, as shown in Table 15.

Table 15
Current Status of Sayram Lake Wellness Value Communication Based on AISAS Model

AISAS Stage	Characteristics of Wellness-Related Content Presentation	Main Data Sources	Status Assessment
Attention	Official content primarily focused on landscape display; “wellness” themed content accounts for less than 15%; emotional imagery such as “The Last Tear of the Atlantic” communicates more effectively than health functional narratives	Official Douyin/Weibo content analysis	Unclear health brand positioning
Interest	UGC frequently features “healing” and “relaxation” health perceptions, but the scenic area official team has not actively guided wellness topic interaction	Xiaohongshu/Douyin UGC analysis	Strong spontaneous tourist perception, weak official guidance
Search	Long-tail search terms such as “Sayram Lake healing” and “Sayram Lake relaxation” are gaining popularity, but authoritative wellness information (e.g., negative oxygen ion concentration, suitable meditation locations) is absent from official channels	Baidu Search Index, Xiaohongshu search suggestions	Information supply-demand mismatch
Action	Bookings for health activities such as “lake cycling” and “hiking” have increased, but wellness products such as “forest bathing,” “guided meditation,” and “Kazakh traditional healing experiences” are not yet available online	OTA platform product analysis	Insufficient wellness product supply
Share	Tourists show strong willingness to spontaneously share “healing experiences,” but lack scenic area-guided wellness topic tags and sharing incentive mechanisms	Social media interaction data analysis	Good word-of-mouth foundation, lack of guidance

4.5.5 Summary

The empirical analysis reveals that: (1) Tourists demonstrate highly spontaneous perception and positive evaluation of Sayram Lake’s “health/wellness” value, with positive sentiment reaching 75.03%, of which over 60% is related to physical and mental health experiences; (2) Wellness value communication exhibits a mismatch pattern of “UGC-driven spontaneity and official content absence” — tourists place high attention on physical and mental healing experiences during the Share stage, but the scenic area’s official content across Attention, Interest, and Search stages has not yet established a clear wellness brand narrative; (3) A significant “health information supply-demand disconnect” exists in the Search stage, with tourists having clear needs for wellness-related information but insufficient authoritative

information supply; (4) The lag in wellness product development during the Action stage constrains the conversion efficiency from “health interest” to “health consumption.”

These findings corroborate the conclusion of “low digital communication capability score (68.3)” from the AHP comprehensive evaluation, indicating that the shortcomings in digital marketing capability are not only reflected in communication technology but more importantly in the insufficient construction of communication narratives around the core value of “ecological wellness.”

5. Conclusions and Recommendations

5.1 Conclusions

This study, employing the AISAS model as the analytical framework and integrating the Analytic Hierarchy Process (AHP) with online text analysis methods, systematically examines the digital marketing practices of ecotourism at Sayram Lake along the tourist behavioral chain of “Attention-Interest-Search-Action-Share.” Innovatively introducing the analytical dimension of “wellness value communication,” the study reveals the communication patterns, structural deficiencies, and social value realization pathways of western ecotourism regions in the digital economy era. The main conclusions are as follows:

First, the ecotourism resource endowment is superior, but digital communication capability constitutes the core bottleneck constraining brand spillover. The comprehensive evaluation results show that Sayram Lake’s overall ecotourism resource attractiveness score is 79.9 (rated as “Good”), with “Ecological Environment” (87.4) and “Tourism Resource Value” (88.2) performing notably well, reflecting its strong regional appeal in natural landscapes and cultural endowments. However, the “Digital Communication Capability” score is only 68.3 (rated as “Fair”), significantly lower than other dimensions. The spatial distribution of social media followers exhibits characteristics of “Xinjiang agglomeration (over 40%) and insufficient eastern diffusion,” with low penetration rates in economically developed provinces such as Guangdong, Beijing, and Jiangsu, indicating that the scenic area’s national visibility still relies on hotspot events and seasonal content, without yet forming normalized cross-provincial and cross-demographic communication capabilities.

Second, tourists demonstrate highly spontaneous cognition and positive evaluation of Sayram Lake’s “health/wellness” value, but the scenic area’s official wellness narratives lag significantly behind tourist perceptions. Online text analysis indicates that feature words directly related to physical and mental health account for 62.4% of tourist online reviews, with positive sentiment reaching 75.03%, of which over 60% relates to experiences such as “healing,” “relaxation,” and “soul purification.” Tourists’ perception of Sayram Lake has transcended the traditional sightseeing level, exhibiting distinctive “therapeutic tourism” characteristics. However, “wellness” themed content accounts for less than 15% of the scenic area’s official promotional content. The Attention stage lacks clear health brand positioning; the Interest stage fails to actively guide wellness topic interaction; and the Search stage lacks

authoritative information on negative oxygen ion concentration and suitable meditation locations on official channels, creating a structural mismatch of “strong spontaneous tourist perception, systematic absence of official content.”

Third, wellness value communication exhibits typical characteristics of “uneven distribution and chain fragmentation” across each AISAS stage. In the Attention stage, new media marketing has achieved initial results but precision targeting remains insufficient, and health brand narratives have not yet been established. In the Interest stage, UGC content is rich but uneven in quality, lacking in-depth wellness experience content. In the Search stage, a serious mismatch exists between health information supply and tourist demand, with SEO optimization and intelligent customer service systems remaining imperfect. In the Action stage, the digital booking process requires further optimization, and wellness products (such as forest bathing, Kazakh traditional healing experiences, and guided meditation) are underdeveloped, constraining the conversion efficiency from “health interest” to “health consumption.” In the Share stage, tourists show strong willingness to share “healing experiences” but lack systematic word-of-mouth management mechanisms; high-popularity content concentrates on “seasonal scenery,” “cycling,” and “camping,” with insufficient communication drive for cultural, ecological, educational, and wellness-oriented in-depth content.

Fourth, the dilemma of wellness value communication at Sayram Lake reflects the universal tension within the digital transformation of western ecotourism regions – the “high value of ecological resource endowment” versus the “low efficiency of health value communication.” During the policy window period characterized by the overlapping of strategies such as “Belt and Road,” “Cultural Enrichment of Xinjiang,” and “Healthy China 2030,” Sayram Lake possesses the foundational conditions and geographical advantages to build a high-quality “ecological wellness destination” brand. However, its digital marketing remains in a transitional stage from “scale expansion” to “quality improvement.” This study further reveals that the digital communication of ecotourism destinations should not be limited to the technical level of “how to sell beautiful scenery,” but should reconstruct the communication logic from the value dimension of “health social welfare,” transforming ecological resources into publicly perceivable and accessible health assets and social benefits.

In summary, by incorporating the dimension of “wellness value communication” into the AISAS analytical framework, this study extends the model’s application boundaries in ecotourism research, providing a new human geography interpretation framework and empirical reference for the digital transformation and health value communication of western frontier tourism destinations under the “Belt and Road” initiative. The findings also offer policy implications for the implementation pathways of the Healthy China strategy in western ecotourism regions and the enhancement of social welfare in frontier areas through digital technology empowerment.

5.2 Recommendations

5.2.1 Enhancing Wellness Brand Exposure and Precision Targeting in the Attention Stage

In the Attention stage, Sayram Lake should transcend traditional landscape marketing logic and establish a clear “ecological wellness destination” brand positioning. Recommendations include: (1) Leveraging big data user profiling to identify target populations with clear needs for “health tourism,” “stress relief,” and “natural healing” (such as high-stress professionals from first-tier cities, middle-aged and elderly wellness groups, and families) and implementing precision content delivery on platforms such as Douyin, Xiaohongshu, and WeChat Moments; (2) Integrating the emotional imagery of “The Last Tear of the Atlantic” with health functional narratives of “natural oxygen bar” and “soul healing destination” to construct a national-level brand narrative of “frontier ecological security barrier – health value provider”; (3) Planning the “Sayram Lake Wellness Season” annual theme campaign to create a complementary off-season wellness communication strategy alongside peak-season landscape marketing, extending the tourism communication cycle.

5.2.2 Strengthening Wellness Content Attractiveness and Interaction Mechanisms in the Interest Stage

A three-tier wellness content ecosystem of “official guidance + KOL demonstration + UGC co-creation” should be constructed: (1) At the official level, plan the “Sayram Lake Healing Plan” series of content, covering composite scenarios such as “lake cycling,” “high negative oxygen ion deep breathing routes,” “starry sky meditation,” and “Kazakh traditional cultural healing experiences,” providing tourists with a menu of participatory wellness activities; (2) Invite health and wellness, outdoor sports, and psychological healing KOLs for in-depth experience creation, producing content with both aesthetic value and health knowledge; (3) Establish cycling supply stations and stamp collection check-in points on-site, redeemable for Xinjiang specialty IP cultural and creative gifts, using gamification mechanisms to stimulate users’ active creation and sharing of wellness experience content.

5.2.3 Optimizing Health Information Supply and Authoritativeness in the Search Stage

An “authoritative health information matrix” should be established: (1) Uniformly launch a “Wellness Healthy Travel” special section on the official website, mini-program, and OTA flagship stores, systematically publishing health-related information such as real-time negative oxygen ion concentration monitoring data, recommended meditation and hiking locations, and wellness activity schedules; (2) Implement SEO optimization for long-tail health search terms such as “Sayram Lake healing,” “Is Sayram Lake suitable for relaxation,” and “Sayram Lake wellness guide,” ensuring official authoritative information ranks at the top of search results; (3) Deploy intelligent customer service systems with a “wellness travel recommendation” dialogue module that automatically pushes personalized wellness routes and products based on user needs.

5.2.4 Advancing Wellness Product Development and Digital Service Experience in the Action Stage

The transformation of wellness products from “concept” to “bookable services” should be accelerated: (1) Develop “Sayram Lake Three-Day Wellness Journey” packages integrating lake cycling, lakeside meditation, Kazakh herbal bath experiences, and eco-photography therapy, available for sale on platforms such as Ctrip and Fliggy; (2) Add a “Wellness Service Booking” entry in the “One Mobile Phone Tour Sayram Lake” mini-program, supporting one-click reservation of wellness guides, customized itineraries, and rental of wellness equipment (such as trekking poles and yoga mats); (3) Improve on-site wellness supporting facilities within the scenic area, including meditation viewing platforms, wellness trail signage systems, and health supply stations, enhancing the comfort and sense of security of offline services.

5.2.5 Strengthening Wellness Word-of-Mouth Communication and Social Empowerment in the Share Stage

A systematic “wellness word-of-mouth communication mechanism” should be established: (1) Launch the “Sayram Lake Healer Project” social sharing incentive campaign, encouraging tourists to publish wellness experience short videos or photo guides using official unified hashtags (e.g., #SayramLakeHealingDiary), with monthly selection of quality content rewarded with scenic area annual passes and cultural and creative gift boxes; (2) Establish a “word-of-mouth monitoring and rapid response” mechanism for wellness experiences, promptly responding to and rectifying negative evaluations concerning hygiene, service quality, and health safety to maintain health brand trust; (3) Regularly publish the *Sayram Lake Wellness Experience Annual Report*, presenting tourist health satisfaction and wellness service coverage through data visualization, reinforcing the public perception and social responsibility of the scenic area as a “health value provider.”

In summary, Sayram Lake should seize the dual opportunity window of the “Healthy China” strategy and digital economy development, taking the construction of a “digital-intelligent ecotourism wellness communication system” as the lever to promote the paradigm shift of digital marketing from “traffic acquisition” to “health value co-creation,” providing a replicable practical model for the high-quality development of western ecotourism destinations and the supply of health social welfare.

Declarations

Author Contributions

Conceptualization: P.Z., F.W., and Z.W.; Methodology: P.Z. and F.W.; Software: P.Z.; Validation: F.W. and Z.W.; Formal Analysis: P.Z. and F.W.; Investigation: P.Z. and F.W.; Data Curation: P.Z. and F.W.; Writing – Original Draft Preparation: P.Z. and F.W.; Writing – Review & Editing: P.Z., F.W., and Z.W.; Visualization: P.Z.

and F.W.; Supervision: Z.W.; Project Administration: Z.W. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement

The data presented in this study are available in the Zenodo repository at <https://doi.org/10.5281/zenodo.22774418> (Version v1). The dataset includes: (1) the anonymized tourist review dataset (N = 989) with the coding scheme for health and wellness related keywords and sentiment classification; (2) the AHP expert scoring matrices and weight calculation files for all twenty-seven indicators; (3) the UGC coding data (N = 200) from Xiaohongshu and Douyin; and (4) the processed data underlying all tables and figures in the manuscript. Data from the Sayram Lake Scenic Area Management Committee are not publicly available due to institutional data-sharing restrictions and can be accessed from the corresponding author upon reasonable request and with permission from the data provider. All review texts have been anonymized to remove personally identifiable information.

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Figures

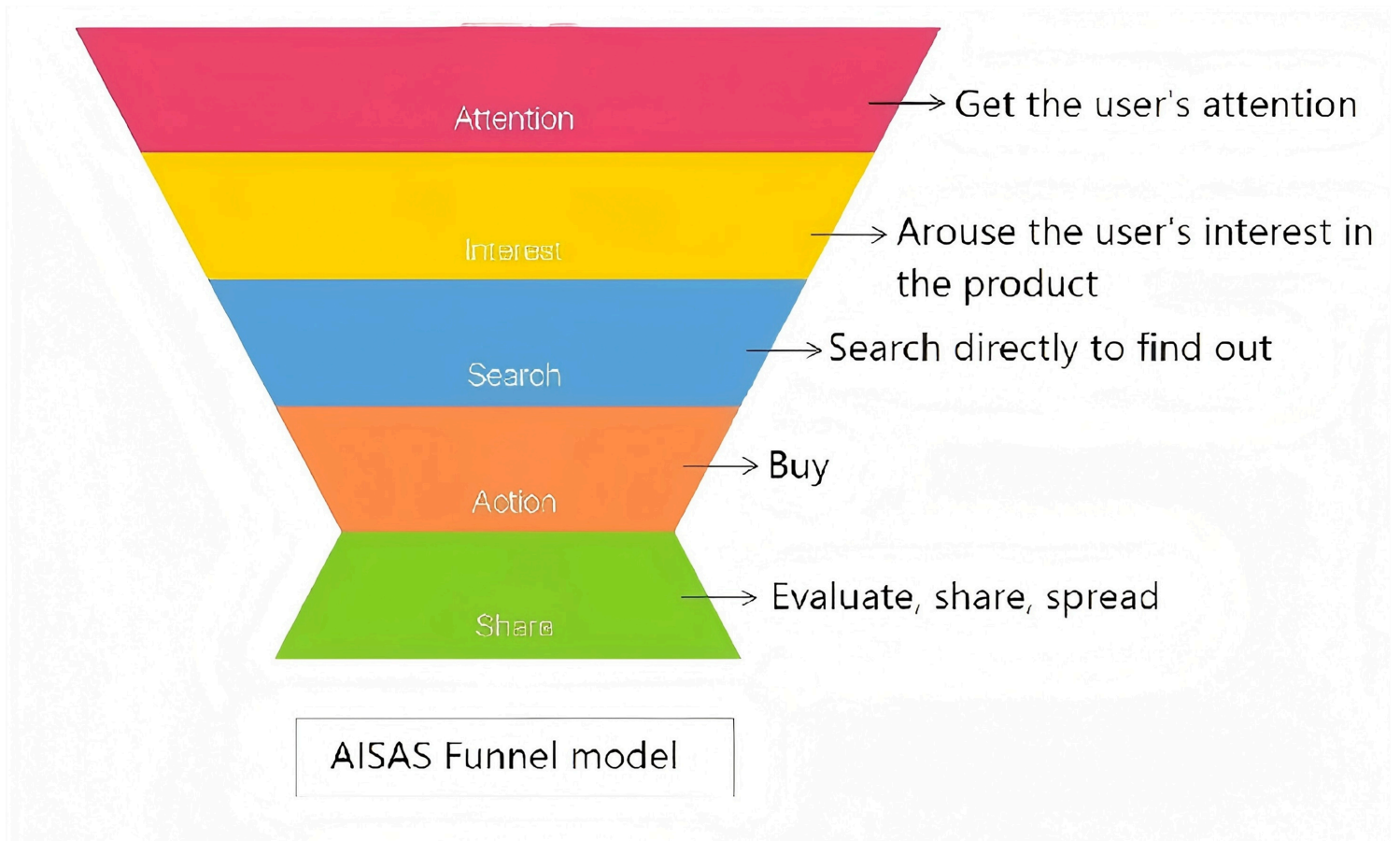


Figure 1

Conceptual Framework

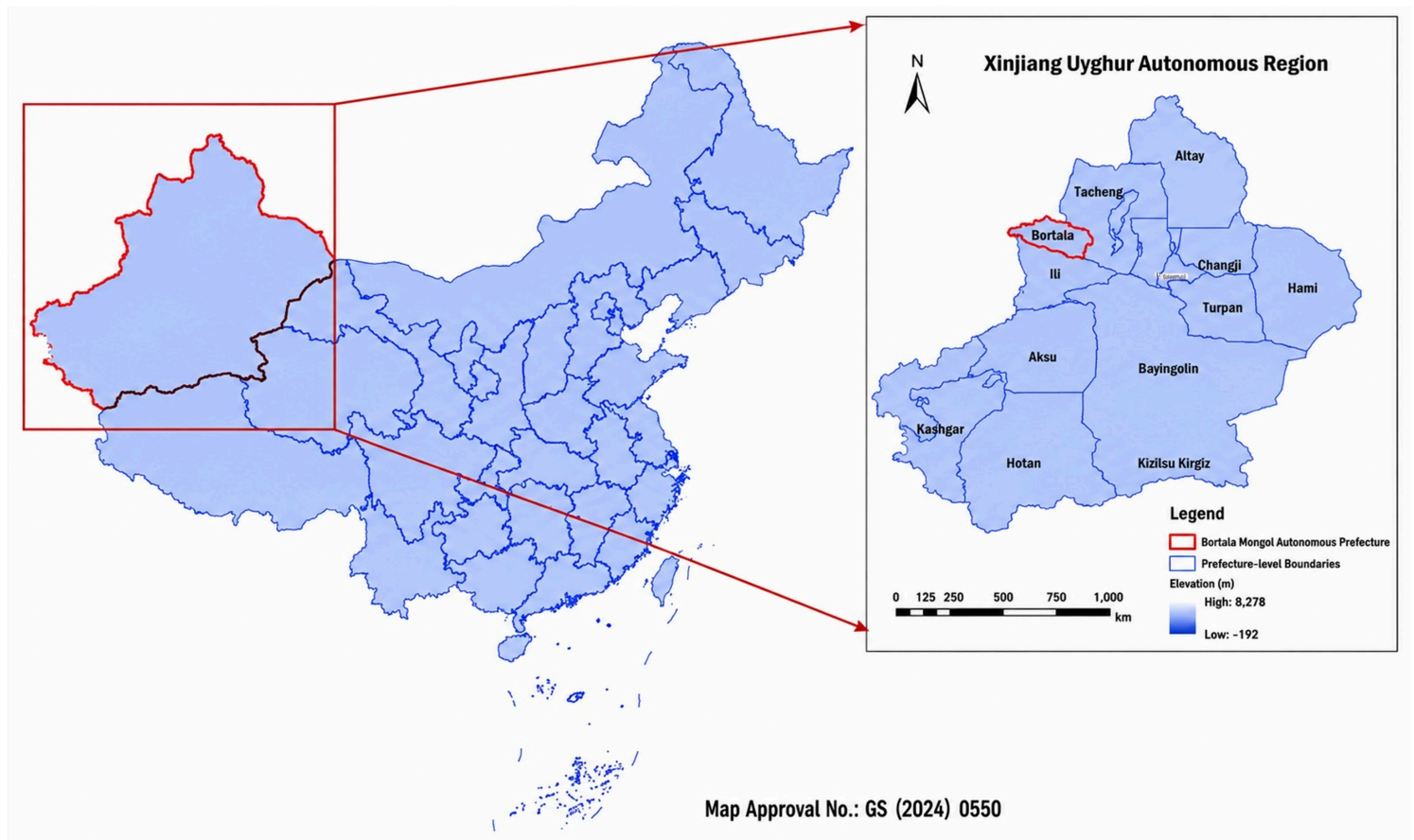


Figure 2

Location Map of the Study Area

Note: This map is produced based on the standard map downloaded from the National Geographic Information Public Service Platform

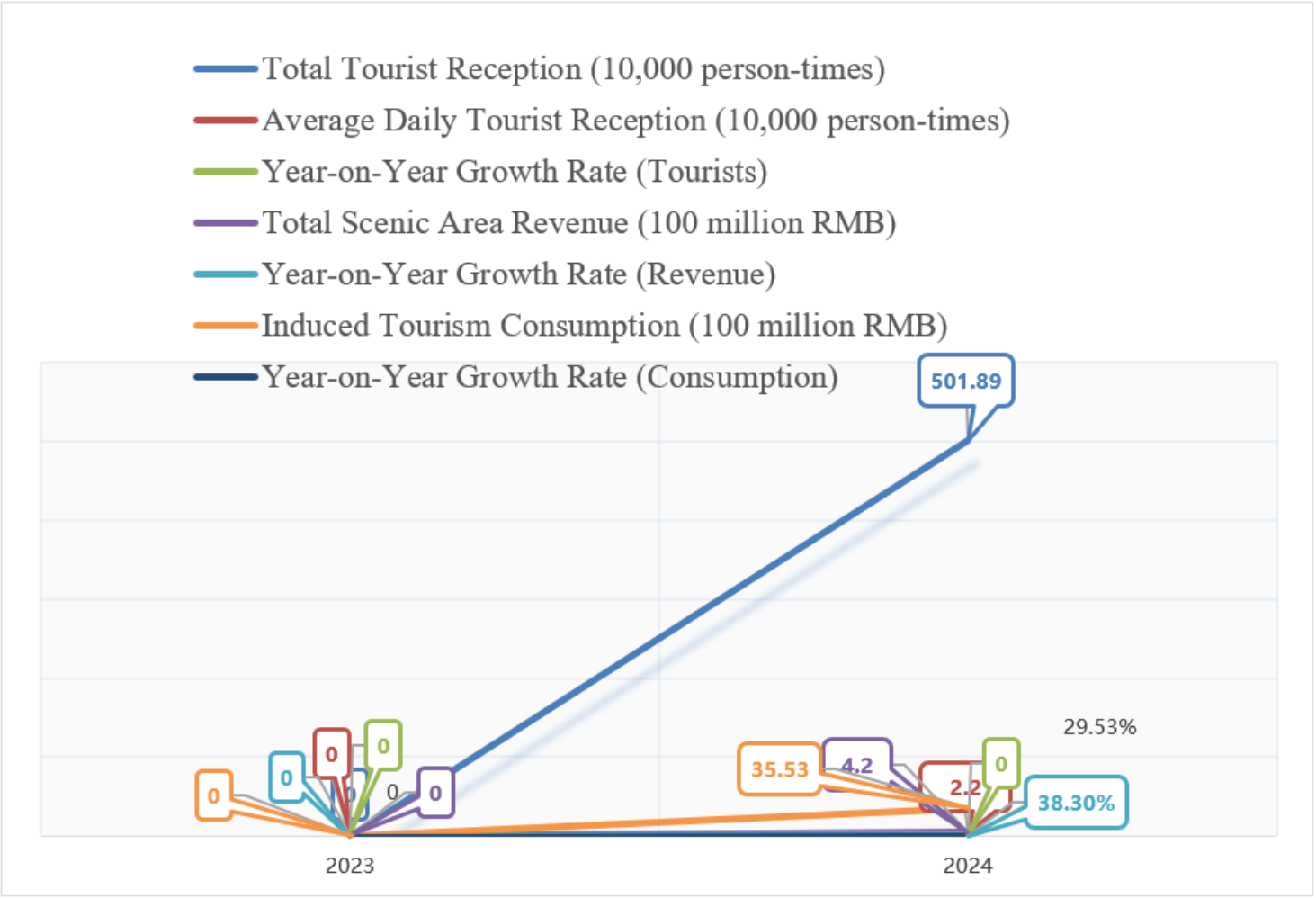


Figure 3

Statistics of Tourist Reception and Economic Benefits of Sayram Lake Scenic Area in Recent Three Years

Data Source: Sayram Lake Scenic Area Management Committee and Bozhou Zero Distance WeChat Official Account, February 2025

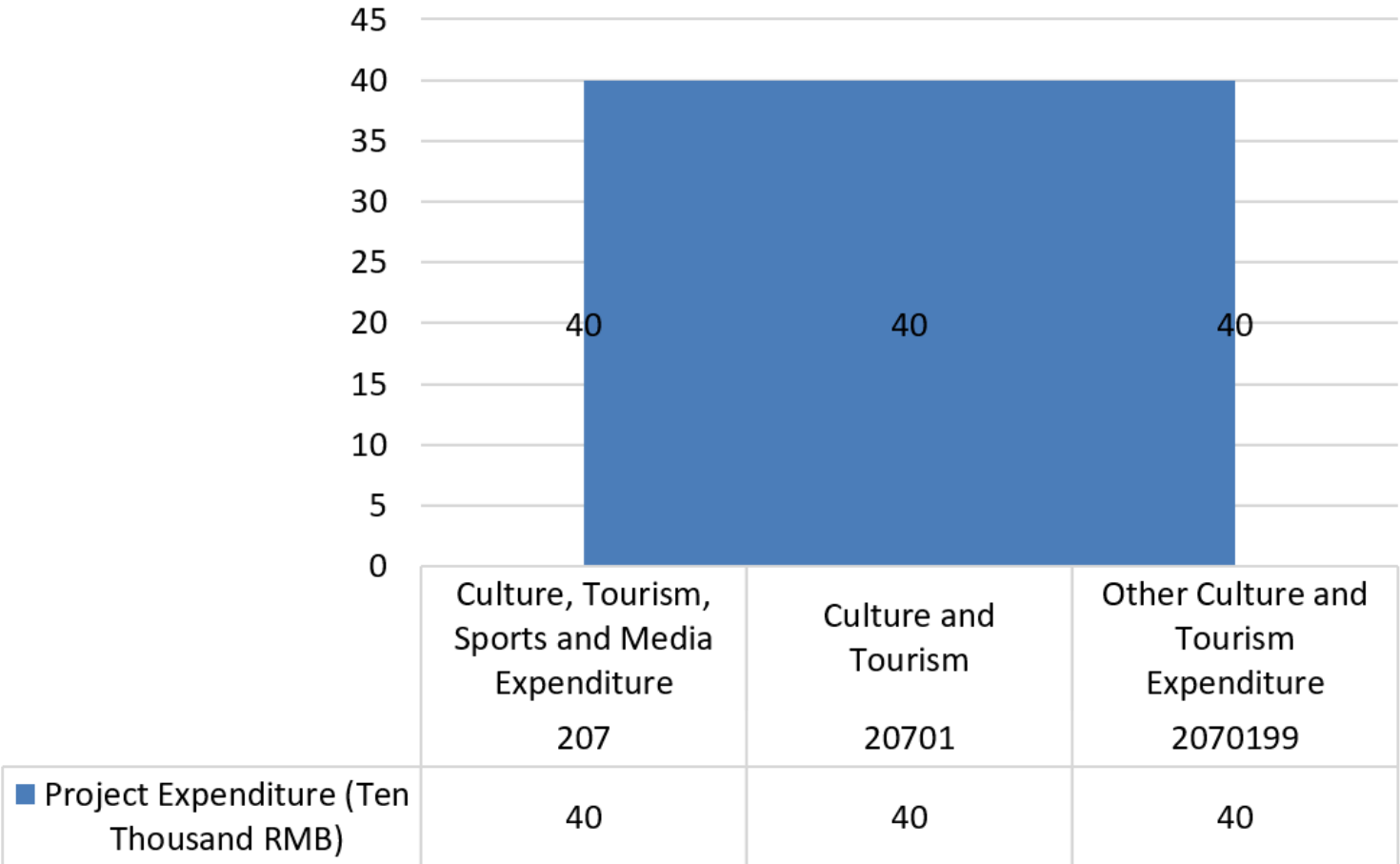


Figure 4

General Public Budget Project Expenditure Statement of Xinjiang Journalists Association, 2024

Data Source: Xinjiang Uygur Autonomous Region Department of Finance, 2024 Annual Government Website Work Report

Notes: ¹The 2023 figure has been revised from the original published data (2,627,000) to 262.7, following confirmation with the scenic area management committee that the originally published data included visitors to multiple attractions across Bortala Prefecture rather than Sayram Lake exclusively. The corrected figure represents the actual entry count to the Sayram Lake Scenic Area core zone. ²The year-on-year growth rate is calculated based on the revised 2023 baseline (262.7). ³Data for 2025 were not included as they represent only a partial-year winter season count (October–November) and are therefore not comparable with the full-year figures presented above.