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Predicting Tourist Satisfaction in Film Tourism: A Machine Learning Approach to Sustainable Destination Management

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Abstract. The driving mechanism of tourist satisfaction in film tourism is complex, and traditional statistical methods have limitations in in-depth analysis of its nonlinear relationships. To break through this methodological bottleneck, this study aims to construct an analytical paradigm with high prediction accuracy and in-depth explanatory ability. Based on 400 valid questionnaires collected at Hengdian World Studios in China, this study innovatively constructs a Gradient Boosting Decision Tree (GBDT) prediction model and combines it with the cutting-edge SHapley Additive exPlanations (SHAP) interpretability framework. The results show that this integrated model exhibits excellent predictive validity, achieving an Area Under the Curve (AUC) value of 0.887 in 10-fold cross-validation. It has improved by 7.5% compared with the logistic regression model used as the baseline (main results). More importantly, the SHAP analysis identifies "service staff quality" as the primary determinant of satisfaction; it also reveals that the second most important factor—"scenic environment attractiveness"—has a significant nonlinear "threshold effect": its contribution increases sharply after the score exceeds the medium level (key insight). This study provides a new, high-precision, and interpretable analytical tool for tourist behavior research. Meanwhile, it offers specific and operable data-driven insights for film tourism destinations on how to conduct accurate service optimization and resource allocation to promote sustainable development.

Keywords: Deep learning, Sustainable economic development environment, Tourist satisfaction, Film tourism, GBDT

1. Introduction

Against the current background of in-depth integration of culture and tourism, film tourism, with its unique cultural charm and strong economic driving force, has rapidly emerged as a highly notable segment in the global tourism market; it has made significant contributions to local sustainable development (Li et al., 2023; Nguyen & Tong, 2023; Su & Li, 2023). It can not only effectively drive the sustainable development of the regional economy (Mou et al., 2022; Kusdibyo, 2022; Amey, 2023) but also significantly enhance the brand image and attractiveness of destinations (Teng & Chen, 2020; Zhu et al., 2023; Xu et al., 2023). Therefore, it has become a focus of common concern in both academic and industrial circles. In this context, an excellent tourist experience serves as the fundamental guarantee for enhancing the long-term competitiveness of destinations. This is because tourist satisfaction directly affects tourists' willingness to revisit and word-of-mouth (WOM) communication (Wang et al., 2024; Ponsignon et al., 2021).

However, in tourist satisfaction research, there is an obvious disconnect between the existing analytical paradigms and the growing demand for refined management of film tourism. Existing studies have recognized that film tourism faces a series of challenges, such as cultural heritage protection and environmental impact during its rapid development. However, they generally lack in-depth discussion on the interactive relationship between film tourism, sustainable development, and tourist satisfaction (Fu et al., 2024). In particular, traditional research methods are insufficient in both depth and breadth when analyzing the complex patterns of tourist behavior and preferences. This leads to the current management decisions often remaining at the empirical level, lacking the ability to deeply predict and dynamically respond to tourist needs. Thus, it forms a research gap that urgently to be filled in this field. In other words, a lack of an advanced analytical model that can handle complex data relationships and provide forward-looking insights for sustainable development.

To break through the above methodological bottleneck, the innovation of this study lies in introducing the Gradient Boosting Decision Trees (GBDT) model. Also, it further integrates the current cutting-edge model interpretability framework—SHapley Additive exPlanations (SHAP)—to construct an analytical paradigm with both high prediction accuracy and in-depth diagnostic capabilities. This study argues that GBDT, as a top-tier machine learning (ML) algorithm specifically designed to process such structured questionnaire data, can effectively capture the complex nonlinear and interactive relationships among various influencing factors; its predictive performance is far superior to that of traditional statistical models. More crucially, by introducing the SHAP framework, this study successfully opens the "black box" of high-performance ML models. It can identify "which factors are important" and accurately quantify "to what extent and in which direction each factor specifically affects the satisfaction of each tourist".

The core contributions of this study are specifically reflected in the following four aspects:

- Methodological contribution: A tourist satisfaction prediction model specifically designed for the field of film tourism and based on GBDT fusion SHAP has been constructed and verified. This model provides a brand-new empirical tool for processing and analyzing complex tourist behavior data in tourism management research.
- Empirical contribution: Based on the data of 400 field research questionnaires, the key driving factors and core shortcomings affecting tourist satisfaction in film tourism are empirically analyzed. It is accurately identified that the attitude of service personnel (with a satisfaction score of 8.8) is the core advantage. Facilities (8.2) and environment (8.0) are the key links that urgently need to be optimized.
- Decision support contribution: The research results can provide precise and quantitative decision support for the managers of film tourism destinations, helping them prioritize the investment of limited resources in the improvement areas that have the greatest impact on tourist satisfaction, thereby achieving precise optimization of service delivery.

- Interdisciplinary value: Successfully applying the cutting-edge deep learning (DL) technology of information science to tourism management has opened up a new research path for the cross-integration of the two disciplines; it demonstrates the huge potential of artificial intelligence (AI) technology in promoting the development of "smart tourism".

2. Literature Review

This section aims to lay a solid theoretical foundation for the research through a systematic review and critical analysis of existing literature. This study first constructs a comprehensive theoretical framework connecting film tourism and sustainable development. Second, it conducts an in-depth discussion on tourist satisfaction— the core of destination competitiveness— and the limitations of its traditional research paradigms. Finally, it reviews the evolution of data analysis technology in tourism research to clarify the study's theoretical gaps and methodological innovation value.

2.1. The Current Research Status of Film Tourism and Sustainable Development

As a powerful cultural and economic phenomenon, the significant role of film tourism in shaping destination images and stimulating local economic growth has gained wide academic consensus (Moshiri Langroudi et al., 2024; Zhu et al., 2023). Film and television works can endow destinations with unique cultural narratives and brand identities. Meanwhile, these can be directly converted into tourist flows to drive the development of related industries such as hotels, catering, and transportation. However, profound sustainability challenges lurk behind this rapid development. Without forward-looking planning and management, the over-development of tourism is likely to trigger environmental degradation, over-commercialization of cultural heritage, and interference with the lives of local communities, ultimately undermining the long-term attractiveness of destinations. Therefore, examining film tourism under the theoretical framework of sustainable tourism development (STD) is a necessary prerequisite for ensuring its healthy development.

To construct a more explanatory analytical framework, this study integrates stakeholder, resource-based, and destination competitiveness theories to form a comprehensive trinity perspective. First, stakeholder theory indicates that sustainable development must go beyond a single economic goal and seek a dynamic balance of interests among multiple subjects such as tourists, residents, governments, and enterprises (Huang et al., 2023). Second, resource-based theory regards unique film shooting locations as the core "resources" for destinations to gain sustained competitive advantages. However, it emphasizes the scarcity and fragility of these cultural and natural resources, and their development must be based on protection. Finally, destination competitiveness theory connects the first two theories. This theory points out that the long-term success of a destination depends on its ability to maintain the integrity of ecosystems and community well-being while efficiently utilizing core resources and providing excellent tourist experiences.

Under this comprehensive framework, the sustainable development of film tourism is regarded as a complex systematic project. It requires managers not only to be good at marketing and attracting tourists but also to accurate insight into and predict tourists' needs and satisfaction. Based on this, they should scientifically allocate resources and formulate management strategies to find the optimal balance between fierce market competition and fragile environmental carrying capacity. This process is essentially an intelligent decision-making process highly dependent on data-driven approaches.

2.2. Research Status of Tourist Satisfaction

Tourist satisfaction is the micro-foundation of destination competitiveness. It is directly related to tourists' willingness to revisit, WOM recommendations, and overall consumption levels, and serves as a key performance indicator for measuring the effectiveness of destination management (Page et al., 2025). Traditional studies, especially under the influence of classic service quality models, have identified several core dimensions that affect tourist satisfaction, such as tourism facilities, physical

environment, service staff attitude, and project attractiveness. These studies provide an important cognitive framework to understand the basic composition of satisfaction. However, the paradigm they follow exposes significant limitations when facing the increasingly complex tourism experiences of today.

These limitations are mainly reflected in the "linearity" and "simplification" of the analytical paradigm. Traditional statistical models, such as linear regression or structural equation models, are based on the core assumption that the influence of various factors on satisfaction is linear and additive. This is far from the complex psychological perception process of tourists in reality. For example, they can hardly capture the nonlinear interaction effects among factors (such as the extent to which the friendly attitude of service staff can make up for the inadequacy of facilities). Meanwhile, threshold effects are hardly captured (such as the sharp increase in negative impact on satisfaction when environmental cleanliness falls below a certain level). In addition, experience dimensions that are crucial to culture and film tourism, such as authenticity, have rich connotations and subjective perceptions; this makes it difficult to simplify them into several linear indicators for effective measurement. Therefore, traditional methods can identify "which factors are important". However, they cannot reveal "how these factors jointly affect tourists' final evaluation in a complex and dynamically combined way", thus limiting the refinement of management decisions.

2.3. Research Status of Data Analysis in Tourism Studies

To break the constraints of traditional methods, the field of tourism research is actively embracing AI technologies represented by machine learning (ML) and deep learning (DL). These technologies are profoundly reshaping tourist behavior research and industry practices. Their applications have penetrated various links of the tourist experience. For example, advanced recommendation algorithms can provide highly personalized tourism products and itinerary planning (Yang, Zhang, & Feng, 2024). These algorithms also significantly affect tourists' price sensitivity according to the type of recommender (such as AI or human experts) (Xu et al., 2025). On the marketing side, new tools like AI-generated videos have also begun to be used for innovating tourism promotion content, and have been proven to effectively influence the decisions of potential tourists (Seo et al., 2025).

Despite remarkable technological progress, the application of ML in tourism satisfaction management still faces challenges, and its development is unbalanced. First, existing studies have a certain methodological lag and an insufficient exploration of DL architectures that can handle deeper data structures. This gap is particularly obvious when compared with the rapid development of methodological frontiers in this field. Latest studies have even begun to explore the generation and application of synthetic data to solve the problems of sparse real-world data or data privacy, thereby training more robust prediction models (Viglia et al., 2024). Second, the successful application of any new technology cannot be separated from the adoption and trust of managers (George, 2023). The models' "black box" nature is a major obstacle to their implementation in management practice. Latest studies further reveal that there is a profound "AI trust divide" in the industry. This means the effectiveness of AI systems depends not only on their technical performance but also on the degree of trust that human decision-makers (e.g., managers) have in their decision-making processes. This constitutes a key bottleneck for AI-empowered management decisions (Hu et al., 2024).

2.4. The Research Gap and Advantages

Based on the above comprehensive analysis, this study identifies a key theoretical and methodological gap in the current field of film tourism research. A lack of an intelligent analytical tool that can effectively connect micro-level tourist satisfaction data with macro-level sustainable development goals. Traditional statistical methods are no longer competent due to their inherent limitations, while existing ML applications still have shortcomings in terms of model depth, breadth, and addressing management trust issues. This study requires a new paradigm; it should have high

prediction accuracy and reveal the complex driving mechanism behind satisfaction to a certain extent, thereby providing a scientific basis for managers' refined and forward-looking decisions.

To fill this gap, this study selects Gradient Boosting Decision Tree (GBDT) as the core prediction engine and introduces the SHAP framework for in-depth interpretation. The selection of this integrated framework is based on the following rigorous considerations. First, GBDT is recognized as one of the optimal algorithms for processing tabular data of medium scale (N=400), like that in this study. While ensuring high prediction accuracy, it has much lower requirements on sample size than DL models and can effectively avoid the risk of overfitting. Second, it is the core innovation of the proposed methodology. This study recognizes that merely providing a high-precision prediction model cannot fully solve the trust and application problems in management decision-making. For this reason, the study takes a further step in methodology by introducing the SHAP framework to "dissect" the trained GBDT model. Based on game theory, SHAP can offer a solid theoretical attribution for each prediction. The visual interpretations it provides (such as summary plots and dependence plots) can transform the complex model decision-making process into business insights that managers can intuitively understand.

3. Research Methodology

This study adopts a quantitative empirical analysis method, collects first-hand data through questionnaires, and constructs an ML prediction model and an interpretability framework. It aims to accurately identify the key driving factors affecting tourist satisfaction in film tourism and provide data-driven decision support for destination managers. This section elaborates on the research design, data collection process, development and validation of measurement tools, and selection and demonstration of core analysis models; it also introduces the complete process of data processing, model training, and validation.

3.1. Research Design and Analysis Framework

This study adopts a cross-sectional survey design. It collects data on tourists' demographic characteristics, travel behaviors, film tourism preferences, and satisfaction evaluations of the destination's multi-dimensional service experience at a specific time point. The purpose is to explore the complex relationships between these variables and tourists' overall satisfaction. This method is widely used to capture tourists' perceptions and satisfaction in specific contexts (Kusdibyo, 2022).

This study constructs a new research and analysis framework to ensure the research process's clarity, logic, and reproducibility, as shown in Fig. 1. This framework completely abandons the misleading diagram in the previous version, which contained fundamental methodological errors. In the form of a flow chart, the new framework clearly shows the complete logical chain: from the development and validation of the questionnaire to data collection, model training, and performance evaluation. finally, it conducts an in-depth interpretation through the SHAP framework to form management insights. This data-driven path is consistent with the current trend in the tourism research field. Computational methods such as ML are increasingly used to predict emotions and scores from tourist evaluation data and extract in-depth insights (Puh & Bagić Babac, 2023). It reflects the rigorous research path of this study, following standard ML practices, aiming to provide a solid and transparent foundation for subsequent empirical analysis.

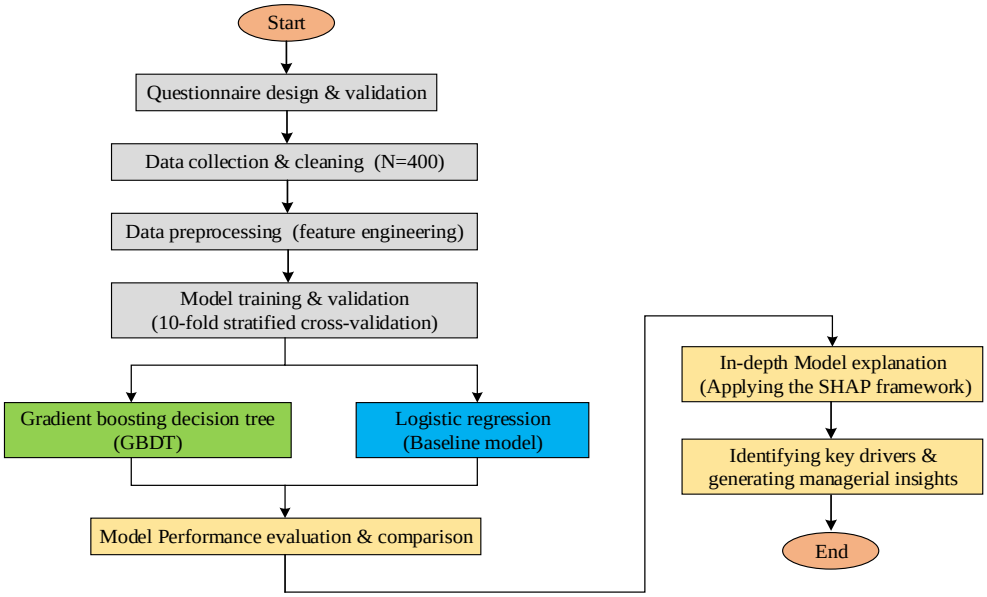

Fig. 1: Flowchart of research and analysis framework.

3.2. Data Collection and Samples

The actual data collection period of this study is from July 1, 2023, to September 30, 2023. This period covers the summer tourism peak season, which helps to capture a more diverse sample of tourists. The data collection location is Hengdian World Studios in Zhejiang Province, China. As one of the world's largest film and television shooting bases, it attracts millions of tourists every year and serves as an ideal case site for film tourism research. All research procedures strictly comply with academic ethics and obtain informed consent from each respondent.

1) Data Collection Method

This survey is conducted through an on-site intercept survey. To maximize sample representativeness and reduce sampling bias, this study adopts a multi-stage sampling strategy. First, this study selects five core areas with the largest tourist flow in the scenic spot (such as the entrance of Qin Palace and Ming-Qing Palace Garden); second, in each area, the research team surveys at different periods (9:00-12:00 a.m. and 14:00-17:00) on workdays and weekends; finally, a systematic sampling method (inviting one out of every 10 passing tourists) is used to invite adult tourists (aged 18-50) to participate in the anonymous questionnaire survey. A total of 450 questionnaires were distributed in this study. After excluding invalid questionnaires with excessively short response times, obviously regular answers, or missing key information, 400 valid questionnaires were recovered, with an effective recovery rate of 88.9%. This study holds that a sample size of 400 is sufficient and appropriate for training ML algorithms like GBDT—algorithms that have a much higher tolerance for data volume than DL models. It can ensure the model's generalization ability while effectively avoiding overfitting caused by sparse data.

2) Survey Instrument

The questionnaire was designed based on a systematic review of literature related to film tourism and tourist satisfaction. It was reviewed and revised by three senior experts in the field of tourism management to ensure its content validity. The questionnaire mainly includes five parts:

a) Demographic information: It covers basic variables such as gender, age, education level, occupation, and monthly income.

b) Travel behavior characteristics: It includes travel mode (e.g., group tour, independent travel), type of travel companions, length of stay, and channels for obtaining tourism information. The

measurement of information acquisition channels is based on existing studies, which have confirmed that official channels and User-Generated Content (UGC) have an important impact on tourists' final destination selection (Nguyen & Tong, 2023).

c) Film tourism preference: A 5-point Likert scale (1 = no impact at all, 5 = fully decisive) is used. It measures the degree of influence of film and television works (e.g., films, TV dramas) on tourists' choice of Hengdian World Studios as a tourism destination.

d) Multi-dimensional evaluation of destination satisfaction: This is the core input feature of the proposed ML model. A 7-point Likert scale (1 = very dissatisfied, 7 = very satisfied) is employed to ask tourists to evaluate the following five core service constructs. The selection and design of these constructs fully draw on the proven key influencing factors in film tourism research, such as destination image, place attachment, authenticity perception, and tourist engagement (Rather et al., 2022; Martínez García de Leaniz et al., 2025; Zhou et al., 2023). Each construct consists of multiple measurement items, as exhibited in Table 1:

Table 1: Multi-dimensional evaluation item of destination satisfaction.

Construct	Measurement dimensions	The number of items
Service personnel quality	Employees' willingness to respond, professionalism, and empathy ability	3
Tourism facility convenience	The clarity of the indication system, the sufficiency of rest facilities, the cleanliness of restrooms, etc	4
Scenic environment attractiveness	The grandeur of the shooting scene, maintenance status, cultural atmosphere, and the sense of immersion and authenticity it brings to tourists	4
Destination accessibility and transportation	The convenience of external transportation and the efficiency of internal transportation	2
Dining and shopping experience	The diversity of related consumption, price rationality, and local characteristics	3

- Service personnel quality: It includes 3 items, adapted from the SERVQUAL scale of Parasuraman et al., 1988, focusing on employees' willingness to respond, professionalism, and empathy ability.
- Tourism facility convenience: It encompasses 4 items, evaluating the clarity of the indication system, the sufficiency of rest facilities, the cleanliness of restrooms, etc.
- Scenic environment attractiveness: It covers 4 items, measuring the grandeur of the shooting scene, maintenance status, cultural atmosphere, and the sense of immersion and authenticity it brings to tourists.
- Destination accessibility and transportation: It encompasses 2 items, assessing the convenience of external transportation and the efficiency of internal transportation.
- Dining and shopping experience: It involves 3 items, measuring the diversity of related consumption, price rationality, and local characteristics.

e) Overall satisfaction and revisit intention: Among them, "overall satisfaction" (using the Likert 7-point scale) is binarized (1-4 and 5-7 points are defined as "0- dissatisfied" and "1- satisfied"); it also serves as the Target Variable of the ML classification model proposed by this study.

3) Measurement Reliability and Validity

To ensure the reliability and validity of the measurement tool, this study conducted a pilot test (N=50) in June 2023 before the formal survey. The questionnaire wording was fine-tuned based on the pilot test results (such as ambiguous semantics in some items). Using the finally collected data of 400 valid samples, this study conducted strict reliability and validity tests on the measurement model.

Regarding reliability, this study calculates the Cronbach's α coefficients of the five core constructs. The results show that the α coefficients of all constructs range from 0.806 to 0.872, all higher than the generally accepted threshold of 0.7 in the academic community. This indicates that the scale adopted in this study has excellent internal consistency reliability.

In terms of validity, this study conducts a comprehensive evaluation. First, as mentioned earlier, this study ensures good content validity through literature and expert review. Second, an Exploratory Factor Analysis (EFA) is performed to test the construct validity. The results of the data applicability test show that the Kaiser-Meyer-Olkin (KMO) value is 0.821 (>0.8), far exceeding the recommended standard of 0.6; the result of Bartlett's test of sphericity also reaches statistical significance ($p < 0.001$), indicating that the data is very suitable for factor analysis. By using the principal component analysis and maximum variance rotation methods, five factors consistent with the preset constructs of this study are finally extracted, with the cumulative variance explanation rate reaching 68.5%. All measurement items have factor loadings greater than 0.5 on their corresponding factors, and there is no serious cross-loading problem. This proves that the scale has good convergent validity and discriminant validity.

Finally, this study also carefully considers and takes measures to control the potential Common Method Bias (CMB). Since all data are collected from the same respondents through the same questionnaire at the same time point, there may be a risk of CMB. In response to this, this study adopts procedural remedies during the research design stage, including the following. 1) The measurement items of different constructs are randomly arranged in the questionnaire to reduce the inertia effect caused by consecutive answers; 2) The anonymity of the questionnaire is repeatedly emphasized to respondents; all data are guaranteed to be used only for academic research to encourage them to provide more authentic answers, thereby reducing social desirability bias; 3) The questionnaire language strives to be concise and neutral, avoiding leading questions. Through these measures, this study minimizes the impact of CMB.

3.3. Model Selection and Demonstration

To achieve accurate prediction of tourist satisfaction and identify its key driving factors, this study makes careful selections and rigorous demonstrations in terms of methodology. The study abandons the misleading approach in the previous version, which contained fundamental methodological errors. Instead, it adopts an integrated analytical framework that is more suitable for the data type and research objectives: the GBDT algorithm and the SHAP interpretability framework. This selection aims to ensure the predictive validity, explanatory depth, and practical value.

This study selects GBDT as the core prediction model, and its core advantage lies in its excellent ability to process structured questionnaire data (i.e., tabular data). Unlike models designed specifically to process data with spatial structures (e.g., images), GBDT is designed to efficiently handle mixed-type features. Meanwhile, GBDT can effectively capture complex nonlinear relationships and interaction effects between variables. The algorithm constructs a powerful integrated model by iteratively and sequentially training a series of weak learners (decision trees), and its core idea can be summarized as Equation (1):

$$F_m(x) = F_{m-1}(x) + \nu \cdot h_m(x) \tag{1}$$

Among them, $F_m(x)$ represents the integrated prediction function; $h_m(x)$ denotes the decision tree that focuses on correcting the residuals of the previous model in a new round of iteration; ν refers to the learning rate serving as a key regularization parameter. This mechanism ensures the model's high prediction performance; it also has built-in multiple overfitting control methods, such as learning rate, subsampling, and limiting tree complexity. This enables this study to systematically manage and mitigate the risk of overfitting in the subsequent parameter tuning process.

This study also constructs a classic logistic regression model as a baseline model for comparison to objectively evaluate the GBDT model's performance gain. The logistic regression model has a simple

structure and stable results, and is one of the most commonly used benchmarks in classification tasks. Both models are evaluated under 10-fold cross-validation using multiple indicators, including accuracy, precision, recall, F1-score, and Area Under the Receiver Operating Characteristic Curve (AUC-ROC).

However, it can be recognized that high-performance models are often accompanied by the "black box" problem, which may limit their application in management practice. This study takes a further step in methodology by introducing the current cutting-edge model interpretability framework—SHAP (Sasaki & Yamamura, 2023). Based on cooperative game theory, SHAP fairly attributes the predictive output of the model to each input feature by calculating the Shapley Value (ϕ_j) of each feature. Its explanatory model can be expressed as Equation (2):

$$g(z') = \phi_0 + \sum_{j=1}^{M} \phi_j z'_j \tag{2}$$

$g(z')$ refers to the explanatory model for the original model $f(x)$. $z' \in \{0,1\}^M$ is a simplified binary feature vector, indicating whether a certain feature exists. M represents the total number of input features. ϕ_0 denotes the baseline value, which refers to the expected model prediction when all features are missing. ϕ_j means the Shapley Value of feature j, representing the average marginal contribution of this feature to the final predicted value.

The purpose of introducing SHAP is not only to open the "black box" of GBDT for transparency but also to provide in-depth insights beyond the traditional ranking of feature importance. Film tourism experience is essentially a complex semiological practice. Tourists' interaction with destinations (such as Pandora) is full of symbolic meaning construction (Hao et al., 2024). Media narratives also profoundly shape tourists' perception and practice of specific spaces (Valcuende, Blanco-López, & Pichardo, 2023). These complex psychological and emotional factors are difficult to measure simply, and SHAP just provides a powerful analytical tool for this. This ensures that the results stay at the academic level while offering truly data-driven support for the sustainable development of film tourism destinations and the improvement of tourist satisfaction (Stepchenkova et al., 2025).

3.4. Data Analysis Process

The data analysis process of this study strictly follows the standard practices in ML to ensure robustness, reproducibility, and objectivity. The entire process is designed as a coherent, end-to-end pipeline, covering all steps from data preprocessing to final model interpretation.

Data Preprocessing: After cleaning the data (e.g., handling outliers), this study conducts necessary feature engineering. First, one-hot encoding is used to convert all categorical variables collected in the questionnaire (such as gender, travel mode, occupation, etc.). This step converts non-numerical categories into a binary (0/1) format that the model can process, avoiding the introduction of incorrect ordinal relationships in the model. Second, this study separates all input features from the previously defined target variable (i.e., the binarized overall satisfaction) to prepare for subsequent model training.

Model Training and Validation: To obtain a robust and unbiased evaluation of model performance, this study adopts 10-fold stratified cross-validation. This method randomly divides the complete dataset of 400 samples into 10 mutually exclusive subsets ("folds") of similar size. "Stratification" ensures that the proportion of "satisfied" and "dissatisfied" tourists in each subset is consistent with that of the overall dataset, which is crucial for obtaining reliable performance estimates. The model undergoes 10 independent rounds of training and validation. In each round, 9 subsets of data are used to train the models (GBDT and logistic regression), and the remaining 1 subset is used for performance testing. The final reported model performance is the average value and standard deviation (SD) of the results from these 10 rounds of testing. This method is far more reliable and rigorous than a single training set-test set split.

Hyperparameter Tuning and Overfitting Control: To systematically address the overfitting risk of the proposed model and find the optimal configuration for the GBDT model, this study adopts grid search combined with cross-validation for hyperparameter tuning. The study predefines a series of

candidate values for key hyperparameters (e.g., the number of trees [n_estimators], learning rate [learning_rate], maximum depth of trees [max_depth], etc.). Grid search systematically traverses all possible hyperparameter combinations. For each combination, its performance is evaluated through internal cross-validation. Finally, the hyperparameter combination that performs best on the validation set without overfitting is selected to construct the final model. This process ensures that the selected model has excellent performance and exhibits good generalization ability.

Performance Evaluation: To comprehensively and objectively evaluate and compare the performance of GBDT and baseline models, this study adopts a set of comprehensive evaluation metrics suitable for binary classification tasks. These metrics include accuracy, precision, recall, F1-score, and AUC-ROC. Accuracy measures the proportion of samples correctly predicted by the model. Precision measures the proportion of tourists predicted as "satisfied" who are actually "satisfied". Recall measures the proportion of all actually "satisfied" tourists that are successfully predicted by the model. F1-score is the harmonic mean of precision and recall, and it is a commonly used indicator for evaluating the model's comprehensive performance. AUC-ROC represents the area under the ROC curve, which measures the model's overall ability to distinguish between positive and negative samples and is insensitive to sample imbalance issues

Model Interpretation: After finally determining the optimal and fully validated GBDT model, this study applies the SHAP framework to conduct an in-depth interpretation of it. The study calculates the SHAP value for each feature of each sample in the dataset. Based on these SHAP values, it generates charts for global and local interpretability, such as SHAP summary plots and dependence plots, thereby converting the model's complex decision-making process into intuitive and understandable business and management insights.

4. Results

4.1. Reliability and Validity Evaluation

SPSS 26.0 is used for statistical analysis of the results of the questionnaire. In the reliability test, its reliability and validity results are outlined in Table 2.

Table 2: Reliability and validity results of the questionnaire.

Variable	Cronbach α coefficient	KMO value	Sig.	Factor loading range
Tourism Preferences	0.826	0.810	0.000	0.52 - 0.78
Preferences for Film Tourism	0.858	0.843	0.000	0.55 - 0.81
Satisfaction Evaluation	0.872	0.851	0.000	0.58 - 0.84
Willingness to Choose Again	0.806	0.794	0.001	0.51 - 0.77

Table 2 shows the reliability and validity analysis results for each dimension of the questionnaire. The Cronbach's α coefficients are all above 0.8, indicating strong internal consistency. The KMO values are all greater than 0.75, and the significance level (Sig.) of Bartlett's test of sphericity is less than 0.05, further confirming the structural validity of the questionnaire. Additionally, factor analysis is performed, and the factor loadings for each dimension are all above 0.5, further confirming the construct validity of the questionnaire. Therefore, the statistical analysis results provide strong support for the reliability and validity of the questionnaire, ensuring the scientific rigor and credibility of the research findings.

4.2. Sample Demographics and Behavioral Characteristics

(1) Respondent Information. This study provides statistics on the basic information of the respondents. Regarding age distribution, the average age is 35 with a SD of 8 years. The youngest respondent is 20, while the oldest is 60. Considering gender proportion, males and females account for 60% and 40%. In terms of educational attainment, the majority of respondents have a bachelor's degree (60%), followed by those with a master's degree (30%), and a minority have a doctoral degree (10%). Fig. 2 displays the results:

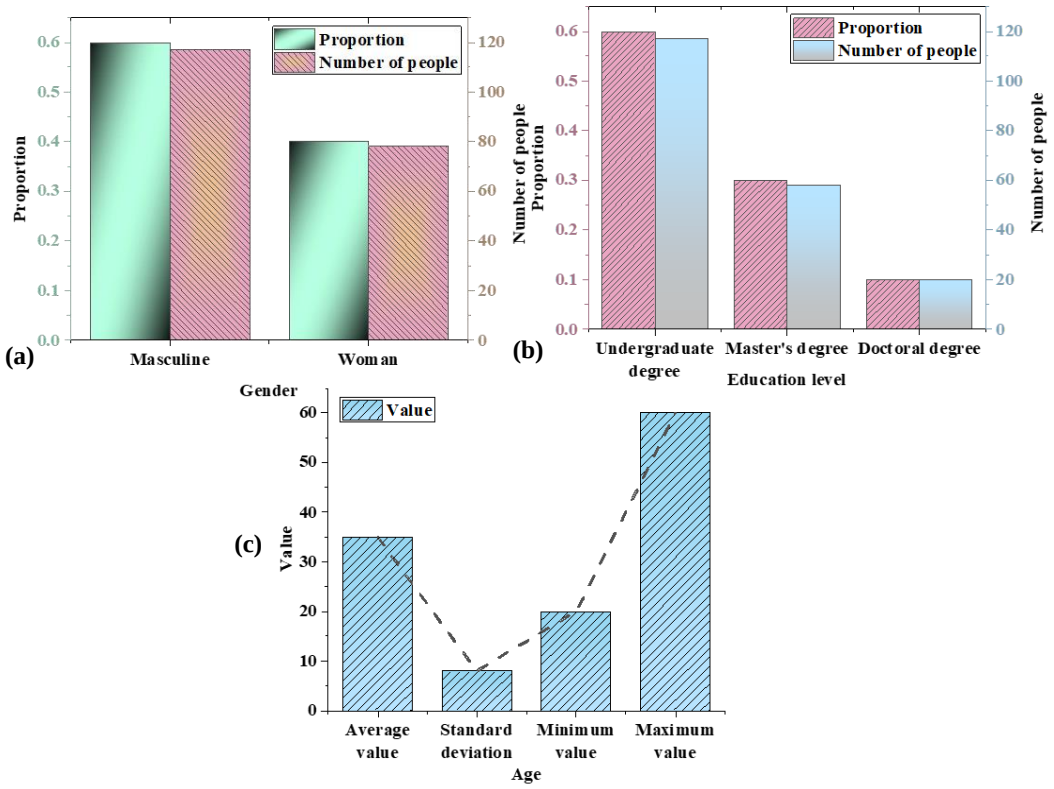

Fig. 2: Respondent information statistics ((a): gender; (b): educational attainment; (c): age).

(2) Tourism Preferences. This study conducts a statistical analysis of the respondents' tourism preferences. The most preferred types of travel are independent travel (50%), group tours (30%), and self-driving tours (20%). The commonly visited types of tourist destinations are as follows: natural landscapes (40%), historical and cultural sites (30%), film and television scenic spots (20%), and others (10%). Fig. 3 depicts the results.

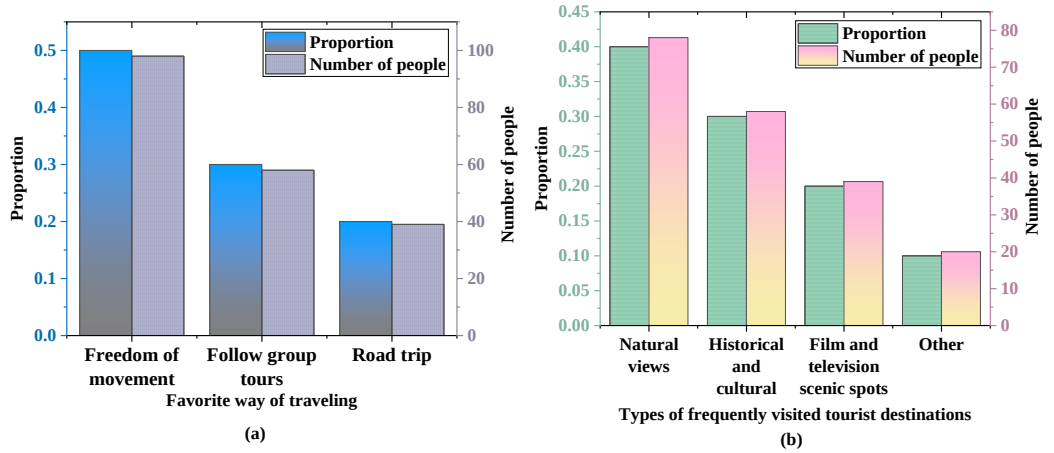

Fig. 3: Tourism preferences statistics ((a): preferred types of travel; (b): types of frequently visited tourist destinations).

(3) Preferences for Film Tourism. Statistical analysis of respondents' preferences for film tourism is conducted. The proportion of respondents who have visited filming locations is 70%. Regarding the influence of these works on the choice of tourist destinations, 50%, 30%, and 20% consider it to have a significant, moderate, and little impact. Fig. 4 presents the results:

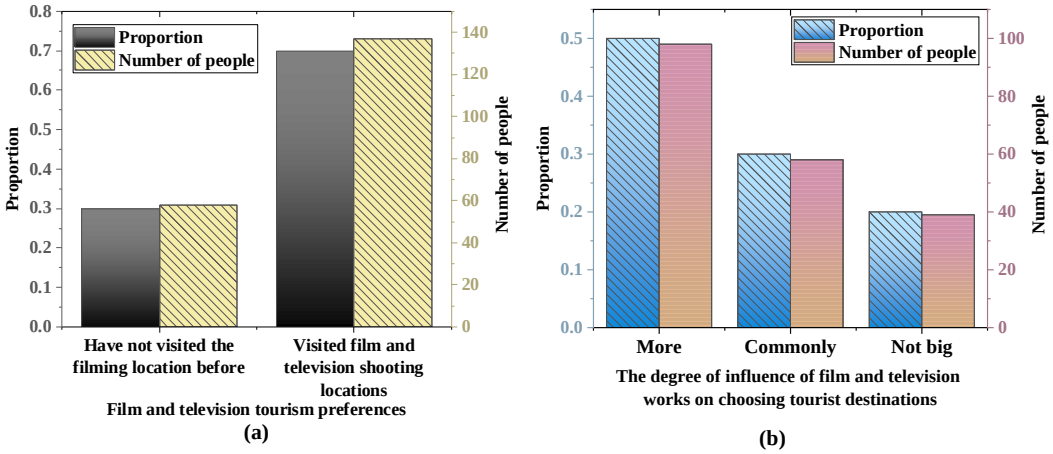

Fig. 4: Statistical analysis of film tourism preferences ((a): proportion of respondents who have visited filming locations; (b): degree of influence of film and television works on the choice of tourist destinations).

(4) Satisfaction Evaluation. Statistical analysis of the respondents' overall satisfaction with film tourism services reveals an average score of 8.5 (out of 10). Satisfaction with the attitude of scenic area staff, scenic environment, and scenic facilities averages 8.8, 8, and 8.2 (out of 10). The results are shown in Fig. 5.

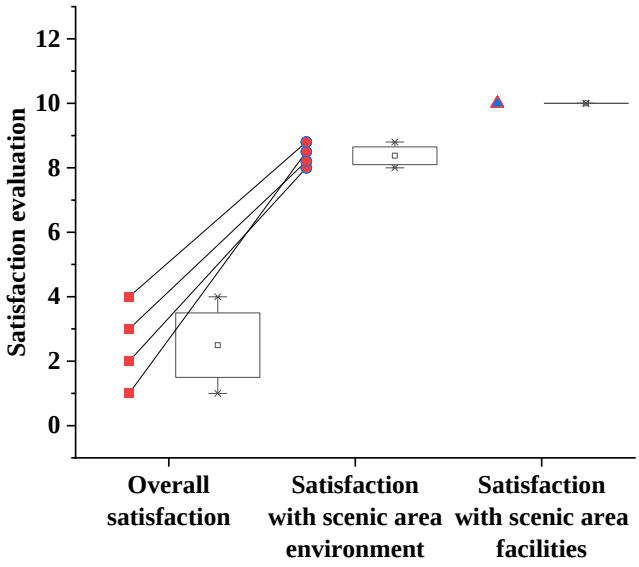

Fig. 5: Statistical analysis of overall satisfaction with film tourism services.

(5) Willingness to Choose Again. Statistical analysis of respondents' willingness to choose again shows that 90% are willing to choose the same film tourism destination again. Additionally, 80% are willing to recommend others to choose film tourism. Fig. 6 reveals the results.

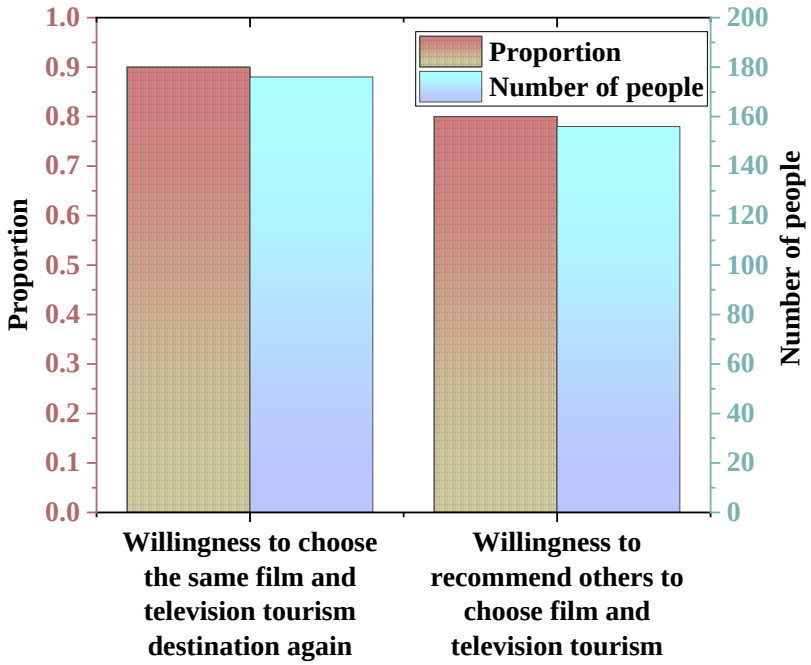

Fig. 6: Statistical analysis of respondents' willingness to choose again.

To fully understand the data basis of this study, a systematic description of the basic profile of 400 valid respondents is conducted. All key descriptive statistical information is integrated into a comprehensive table, as listed in Table 3.

Table 3: Descriptive statistical results.

Variable category	variable name	Specific category	Frequency	Percentage
Demography	Gender	Male	188	47.00%
		Female	212	53.00%
	Age	18-25 years old	162	40.50%
		26-35 years old	130	32.50%
		36-45 years old	78	19.50%
		Over 45 years old	30	7.50%
	Education level	High school and below	48	12.00%
		Junior college/undergraduate degree	316	79.00%
		Master's degree and above	36	9.00%
	Monthly income (yuan)	Below 5000	95	23.80%
		5001-10000	185	46.20%
		10001-15000	82	20.50%
		More than 15000	38	9.50%
Behavior characteristics	Way of travel	Group tours	88	22.00%
		Independent travel/self-driving	312	78.00%
	Companion type	Independent travel	32	8.00%
		With partner/spouse	140	35.00%
		With family	156	39.00%
		With friends/colleagues	72	18.00%
	Information channels	Social media/App	254	63.50%
		Recommendation from a friend/relative	98	24.50%

		Traditional media	26	6.50%
		Travel agency/Official website	22	5.50%

In Table 3, the sample profile of this survey presents clear characteristics. At the demographic level, the gender distribution of the sample is relatively balanced, but female respondents are slightly more numerous (53.0%). The age structure shows a significant younger trend: the youth group aged 18 to 35 constitutes the main body of the sample, accounting for a total of 73.0%. This age distribution is highly correlated with the respondents' educational background. Tourists with a junior college or undergraduate degree occupy an absolute dominant position (79.0%), which together depicts a tourist group centered on well-educated young people. In terms of economic capability, more than half of the tourists have a monthly income concentrated in the middle-income range of 5,001 to 15,000 yuan, indicating that they have a certain consumption capacity and pursuit of tourism quality.

Regarding travel behavior characteristics, the data reveal several important trends of contemporary film tourism. First, independent travel/self-driving (78.0%) has become the absolute mainstream travel mode, far exceeding the traditional group tour. This indicates that tourists prefer a travel mode of independent planning and in-depth experience. Second, from the perspective of companion type, traveling with family (39.0%) or partners (35.0%) dominates. This implies that film tourism, as a cultural and entertainment product, has strong family and social attributes. Finally, in information acquisition channels, online channels represented by social media and tourism applications (63.5%) play a decisive role; their influence far exceeds that of traditional WOM recommendations and official channels. This highlights the extreme importance of digital marketing in reaching and influencing potential film tourists. Overall, the sample profile of this study is highly consistent with the characteristics of the "new generation" of travelers in the current Chinese tourism market. Travelers are enthusiastic about cultural experiences and proficient in online information retrieval. This provides a representative data foundation for the subsequent analysis of the satisfaction model.

4.3. Performance Comparison of Models

This study aims to objectively evaluate the predictive validity of the proposed core model (GBDT) and quantify its performance advantages over traditional statistical methods. It conducts a rigorous performance comparison between the GBDT and a classic logistic regression baseline model. Both models are trained and evaluated using 10-fold stratified cross-validation to ensure the robustness and unbiasedness of the results. The models' predictive performance is measured by multiple comprehensive metrics, including accuracy, precision, recall, F1-score, and AUC-ROC, as demonstrated in Table 4.

Table 4: Performance comparison between GBDT and logistic regression models (results of 10-Fold stratified cross-validation).

Evaluation indicator	Logistic regression (baseline model) (Mean ± SD)	GBDT (Mean ± SD)	Performance improvement
Accuracy	0.785 ± 0.051	0.843 ± 0.045	5.80%
Precision	0.802 ± 0.048	0.859 ± 0.041	5.70%
Recall	0.761 ± 0.055	0.824 ± 0.049	6.30%
F1-score	0.781 ± 0.052	0.841 ± 0.043	6.00%
AUC-ROC	0.812 ± 0.049	0.887 ± 0.038	7.50%

Note: SD represents the standard deviation of the 10-fold cross-validation results; a smaller SD indicates more stable model performance.

The performance comparison results in Table 4 show that the GBDT model is comprehensively and significantly superior to the logistic regression baseline model in predicting tourist satisfaction in film tourism. The GBDT model achieves obvious improvements in all five evaluation indicators. Specifically, the overall accuracy of the model increases from 78.5% to 84.3%; in terms of the F1-score

(an indicator for evaluating comprehensive model performance), the GBDT (0.841) also shows a remarkable advantage over Logistic Regression (0.781).

Of particular note is the performance in the AUC-ROC indicator. AUC-ROC measures the model's overall ability to correctly distinguish between positive and negative samples (i.e., "satisfied" and "dissatisfied" tourists). It is insensitive to sample class imbalance and serves as a more robust gold standard for evaluating the performance of classification models. The results reveal that the GBDT model's AUC value reaches 0.887, a significant increase of 7.5% compared with the 0.812 of the logistic regression model. This result proves that, through its powerful nonlinear modeling capability, GBDT can more effectively learn and capture the complex patterns hidden behind tourists' multi-dimensional evaluation data; these patterns that traditional linear models (such as logistic regression) cannot fully characterize. Therefore, adopting the GBDT model as this study's core analytical tool is methodologically appropriate while reflecting its indispensable additional value in empirical effects.

4.4. The Key Driving Factor of Tourist Satisfaction

The SHAP framework is further used to open this model's "black box", to identify and explain the key driving factors affecting tourist satisfaction in film tourism. Unlike traditional methods that can only provide a single importance ranking, SHAP can offer richer global insights, revealing "how important" each feature is, and "how it influences" the prediction results. Fig. 7 shows the SHAP summary plot for the global interpretation of the final GBDT model in this study. This figure integrates the contribution of each feature to the model's prediction output across 400 samples. It also sorts the features from top to bottom according to their mean absolute SHAP values (i.e., global importance). This study presents the 10 most important features here.

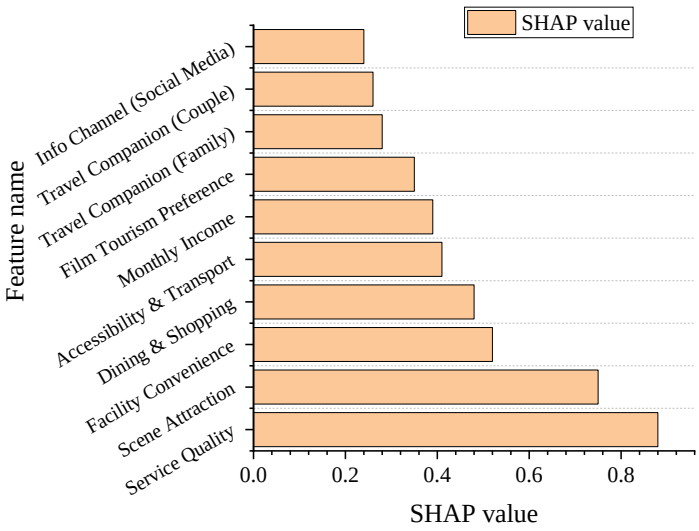

Fig. 7: Summary of SHAP feature importance (Top 10 features).

In Fig. 7, the results of the SHAP analysis provide clear, multi-dimensional evidence to identify the core drivers of tourist satisfaction. First, in terms of the global importance of features (sorted by the Y-axis), "service personnel quality" ranks first with a significant advantage, becoming the most critical predictive factor affecting whether tourists are satisfied. Closely following it is "scenic environment attractiveness", showing extremely high importance. The importance of these two factors far exceeds that of other variables. This indicates that in the specific context of film tourism, the soft services provided by "people" and the immersive experience created by "scenery" together form the core pillars of tourist satisfaction. In addition, "tourism facility convenience", "catering and shopping experience", and tourists' "monthly income" also rank among the top five in terms of importance. This illustrates that

basic hardware, supporting consumption, and tourists' consumption capacity also play indispensable roles.

After identifying the global key factors affecting tourist satisfaction through the SHAP summary plot, SHAP dependence plots deeply explore the potential complex, non-linear relationships between these factors and satisfaction. Meanwhile, SHAP dependence plots investigate possible interaction effects. A dependence plot can clearly show how the marginal contribution of a feature to the model's prediction (i.e., SHAP value) changes as the value of that feature changes. This study analyzes the two features with the highest global importance: "service personnel quality" and "scenic environment attractiveness", as indicated in Fig. 8.

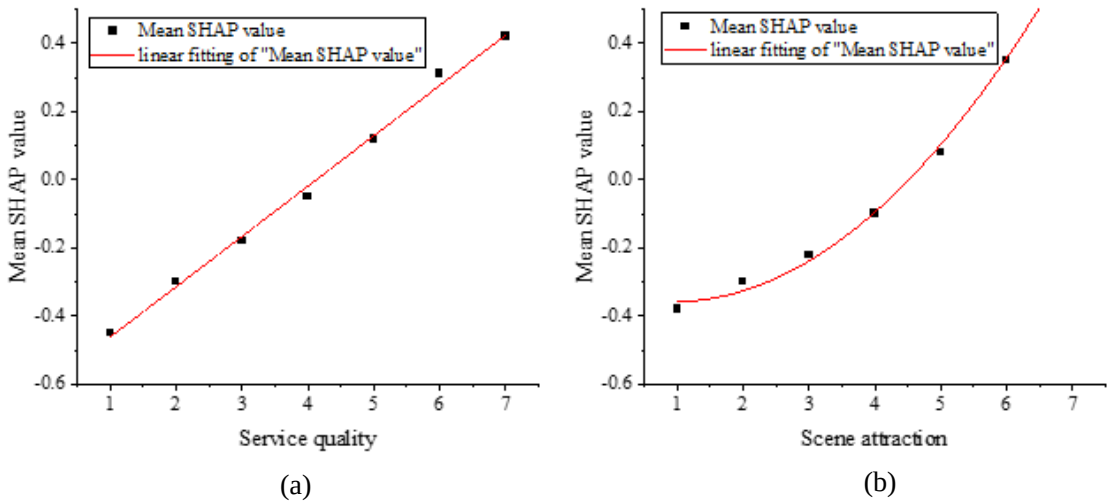

Fig. 8: SHAP dependence plot of different characteristic factors (a. service personnel quality; b. Scenic environment attractiveness).

Fig. 8a deeply analyzes the influence pattern of "service personnel quality"—the most important factor. In the figure, the X-axis represents tourists' original ratings of the service personnel quality (ranging from 1 to 7); the Y-axis represents the SHAP values corresponding to these ratings. A strong, approximately linear positive correlation between the two can be distinctly observed. As tourists' ratings increase, their SHAP values steadily and continuously cross from the negative to positive regions. This indicates that almost every improvement in service quality brings an increase in the predictive contribution to satisfaction of the same magnitude, and vice versa.

Fig. 8b reveals a more complex non-linear relationship between "scenic environment attractiveness" and satisfaction. Although it generally shows a positive correlation, its influence pattern is not a simple linear growth. From the fitted curve, it can be found that when the rating increases from 1 to 4, the growth of SHAP values is relatively gentle; however, after the rating exceeds the "critical point" of 4, the growth curve of SHAP values becomes extremely steep. Especially in the high-score range of 6 to 7, its positive driving effect on satisfaction increases sharply. This finding suggests that there may be a "threshold effect" or "surprise effect" in scenic environment attractiveness. Basic environmental maintenance may not be sufficient to markedly improve satisfaction. However, high-quality immersive scenic experiences that exceed expectations can bring a very high rate of return in terms of satisfaction improvement.

5. Discussions

By constructing a GBDT model and applying the SHAP interpretability framework, this study successfully identifies the key driving factors affecting tourist satisfaction in film tourism and their

complex nonlinear influence patterns. After presenting the above empirical results, this section deeply interprets these findings, discussing them in a broader theoretical context and practical scenario. Thus, it clarifies the theoretical contributions, management implications, and limitations.

5.1. Discussion on Core Findings

The core finding of this study is that "service personnel quality" and "scenic environment attractiveness" together constitute the two pillar factors affecting tourist satisfaction. The result is not surprising, but the extreme importance and specific influence patterns revealed by the SHAP analysis deserve a deeper interpretation in this study.

The reason why "service personnel quality" becomes the most important predictive variable lies in the fact that film tourism is essentially an emotion-intensive experience. Different from simple sightseeing, tourists come here to seek a sense of "immersion" and "presence" that connects the virtual film and television world with the real physical space. This kind of experience is deeply influenced by the parasocial interaction formed between tourists and the characters and stories of film and television works (Guo et al., 2022). In this process, service personnel are no longer just providers of functions. Instead, they are co-creators of experience and mediators of emotion. Every professional explanation, friendly smile, or proactive help they offer strengthens tourists' positive emotional experience and bridges the gap between imagination and reality. The approximately linear relationship revealed by the SHAP dependence plot in Fig. 8a proves a direct and stable positive relationship between the input of this emotional labor and the return of tourist satisfaction. This echoes the research on how tourists establish emotional connections with destinations. In other words, interpersonal interaction is a key path to forming place attachment and improving the quality of tourism experience (Rickly & Canavan, 2024).

The importance of "scenic environment attractiveness" and its nonlinear influence pattern is denoted in Fig. 8b. It reveals the dual attributes of film tourism experience: basic functional needs and higher-level emotional resonance needs. A scenic environment with a rating below 4 may only meet tourists' basic functional needs of "check-in" and taking photos. Thus, its marginal contribution to satisfaction is relatively limited. However, when the maintenance status, cultural atmosphere creation, and authenticity perception of the scenic spot exceed tourists' general expectations (rating higher than 4), it triggers a higher emotional resonance level. That is, tourists truly feel that they "have entered the world of the film". This proves the key mediating role of authenticity perception in connecting destination image and tourist loyalty (Yuliana et al., 2023). This qualitative change from "functional satisfaction" to "emotional resonance" explains the "threshold effect" in which SHAP values rise sharply in the high-score range. This confirms the view of relevant studies that the experience value provided by tourism destinations. Especially the unique scenes that can stimulate tourists' imagination and emotional participation are the key to building their core attractiveness (Chen, 2018).

5.2. Discussion on Theoretical Contributions

The findings of this study are significant at the practical level and make contributions at the theoretical level. This study provides a micro-level empirical supplement to the Destination Competitiveness Theory. This theory emphasizes that destinations need to cultivate their core attractiveness to gain competitive advantages. The SHAP analysis accurately identifies that "service personnel quality" and "scenic environment attractiveness" are the core competitive resources of Hengdian World Studios at the tourist perception level. This indicates that in the context of film tourism, competitiveness is reflected in macro-level brand image or tourist volume; it is also more specifically in these micro-experience dimensions that can be directly converted into tourist satisfaction.

The research results form an interesting dialogue with the stakeholder theory. Factors such as "catering and shopping experience" and tourists' "monthly income" also show a certain degree of importance in the SHAP analysis. This reminds managers that tourists, as core stakeholders, have multi-level needs. These needs include the core demand for cultural experience and the supporting demand

for commercial consumption. Therefore, a sustainable film tourism destination must protect and enhance core cultural attractiveness to meet the interests of tourists and cultural protectors. Meanwhile, it develops sound commercial supporting facilities to meet the interests of tourists and commercial operators, thus achieving a win-win situation for multiple parties.

By comparing with existing literature, this study also expands the understanding of tourist behavior. For example, some studies emphasize that negative film and television content may have an adverse impact on destination image (Azevedo et al., 2023); however, this study shows that through high-quality on-site services and environment creation, destination managers have a strong initiative to shape positive tourist experiences, effectively offsetting the potential negative media image. The study also verifies the importance of tourist engagement in the formation of satisfaction. High-quality services and engaging environments essentially invite tourists to participate more deeply in the destination's narrative. The improvement of this sense of participation will eventually be converted into higher satisfaction and loyalty. This is highly consistent with the research conclusions discussing the formation mechanism of tourist loyalty (Chen, 2023).

5.3. Management Implications

Based on the above empirical findings and theoretical discussions, this study can provide the following specific and operable management implications for film tourism destination managers and relevant policy-makers:

1) Strategic tilt of resource investment: From "asset-heavy" to "experience-focused": Given the extreme importance of "service personnel quality", managers should strategically shift the focus of resource investment from simple expansion of hardware facilities ("asset-heavy") to in-depth investment in human capital ("experience-focused"). Specific measures should include the following contents. a) It needs to implement scenario-based employee training programs that focus on enhancing empathy and narrative abilities; b) It should establish a more effective employee incentive and recognition mechanism directly linked to tourist satisfaction; c) it is necessary to endow frontline employees with greater autonomy in solving tourists' problems; meanwhile, they are encouraged to provide personalized "surprise" services that go beyond standard procedures.

2) Refined management of scenic environment: Crossing the "qualified line" and pursuing "surprise points": The non-linear influence pattern of "scenic environment attractiveness" reveals that the management goal should not be limited to the "qualified line" of "maintaining cleanliness" or "regular maintenance". Conversely, it should create "surprise points" that can stimulate tourists' emotional resonance. Specific measures should include the following. a) Higher-standard scenic maintenance and restoration plans are implemented to ensure the authenticity and high quality of its visual presentation; b) More interactive technologies (such as augmented reality or live performances in core scenic areas are introduced to enhance tourists' sense of immersion; c) it should regularly evaluate the cultural atmosphere of scenic areas, eliminate commercial elements that may damage the "film vibe", and protect the purity of their cultural core.

3) Construction of an integrated tourist experience ecosystem: Although services and environment are the core, factors such as "facility convenience" and "catering and shopping" are also important. Managers should abandon the mindset of "single-point optimization" and instead build a seamlessly connected, integrated experience ecosystem. For example, the optimization of internal transportation should be closely integrated with the visiting routes of core scenic areas; The design of catering and shopping spots should have stronger thematic characteristics, making them an extension of the film cultural experience in themselves, rather than just functional supporting facilities. In this way, the entire journey of tourists—from entering the scenic area to leaving—is included in the scope of refined management.

6. Conclusions

This study addressed the in-depth methodological limitations existing in analyzing tourist satisfaction in the current film tourism field. By analyzing the questionnaire survey data of 400 tourists from Hengdian World Studios in China, this study creatively constructs and verifies an analytical paradigm that integrates the GBDT and SHAP framework. The study achieves superior performance in predicting tourist satisfaction compared with traditional statistical models. More importantly, it successfully opens the "black box" of high-performance ML models. It accurately identifies the key driving factors affecting tourist satisfaction and their complex nonlinear influence patterns, providing destination managers with a decision support tool that combines prediction accuracy and in-depth insights.

The core contributions of this study are multifaceted. Theoretically, it effectively connects micro-level tourist satisfaction with the macro-level STD framework through empirical data; this reveals the micro-path of building a destination's core competitiveness by refining the management of tourist experiences. Methodologically, this study introduces and demonstrates an integrated analytical paradigm of GBDT and SHAP—with both high prediction accuracy and in-depth interpretability—into tourism management. This framework overcomes the limitations of traditional statistical methods while successfully solving the "black box" problem of ML models through its transparent decision attribution capability. Practically, the findings provide destination managers with a clear, data-driven decision-making basis. They point out that prioritizing resource investment in improving employee service quality and creating immersive scenic experiences is the most efficient way to maximize tourist satisfaction.

Although this study makes innovations in methodology and draws valuable conclusions, it still has several limitations, which also point out directions for future research. First, the samples of this study are only obtained from a single film tourism destination in China. The generalizability of its conclusions under different cultural backgrounds and destination types needs further verification. Future research can verify the proposed model's robustness through cross-cultural, cross-destination, and multi-modal comparative studies. Second, the cross-sectional data used in this study can effectively reveal the correlation between variables, but cannot strictly infer causal relationships. Future research can adopt a longitudinal research design or experimental methods to explore the causal mechanism between key service dimensions and satisfaction more deeply. Finally, the relevant data completely relies on tourists' self-reports, which may have potential risks such as social desirability bias. Future research can integrate questionnaire data with multi-source objective data (social media comments and geographic location trajectories) to construct a more comprehensive and reliable tourist behavior analysis model.

References

Amey, E. (2023). The distant snowy land where rounded creatures dwell: Experiencing Moomin-related nostalgia and belonging in Finland. *Matkailututkimus,* 19(2), 6–31. https://doi.org/10.33351/mt.124944

Aguilar-Rivero, M., Orgaz-Agüera, F., López-Guzmán, T., & Moral-Cuadra, S. (2025). The mediating role of place attachment, attitudes, and satisfaction in loyalty to film tourism destinations. *Tourism & Management Studies*, *21*(2), 67-81. https://doi.org/10.18089/tms.20250205

Azevedo, A., Alves, J. A., & Fernandes, R. R. (2023). The (negative) impact of violent and gore TV crime series on destination image and travel motivation. *Journal of Destination Marketing & Management,* 28, 100782. https://doi.org/10.1016/j.jdmm.2023.100782

Chen, C. Y. (2018). Influence of celebrity involvement on place attachment: Role of destination image in film tourism. *Asia Pacific Journal of Tourism Research,* 23(1), 1-14. https://doi.org/10.1080/10941665.2017.1394888

Chen, J., Hsu, F. C., Yan, L., et al. (2023). Tourists' Food Involvement, Place Attachment, and Destination Loyalty: The Moderating Role of Lifestyle. *Behavioral Sciences*, 13(8), 629. https://doi.org/10.3390/bs13080629

Chen, P. T. (2023). Influence of film destination placement on travel intention: mediating effect of involvement and place attachment. *International Journal of Tourism Cities*, 9(2), 411-428. https://doi.org/10.1108/ijtc-05-2022-0132

Fu, J., Thitinant, W., & Thitinan, C. (2024). Research on the Factors Influencing Tourists' Purchase Intentions for Cultural and Creative Products at Hengdian Studios. *Journal of Logistics, Informatics and Service Science*, 11(3), 339-353. https://doi.org/10.33168/JLISS.2024.0322

George, A. (2023). A study on the assessment of customer readiness toward the adoption of technological innovations in Indian tourism sector. *Journal of Logistics, Informatics and Service Science*, 10(1), 237-256. https://doi.org/10.33168/JLISS.2023.0113

Guo, Y., Ji, X., Gan, X., et al. (2022). A Study on the Path Mechanism of Para-social Interaction and Place Attachment on Film-Induced Tourists' Behavioral Intention. *Journal of Tourism and Hospitality Management*, 10(3), 135-145. https://doi.org/10.17265/2328-2169/2022.03.003

Hao, X., Jiang, E., & Chen, Y. (2024). The sign Avatar and tourists' practice at Pandora: A semiological perspective on a film related destination. *Tourism Management*, 101, 104856. https://doi.org/10.1016/j.tourman.2023.104856

Hu, J., Huang, G. I., Wong, I. A., & Wan, L. C. (2024). AI trust divide: How recruiter-candidate roles shape tourism personnel decision-making. Annals of Tourism Research, 109, 103860. https://doi.org/10.1016/j.annals.2024.103860

Huang, X., Li, X. R., & Lu, L. (2023). Travel shaming? Re-thinking travel decision making amid a global pandemic. *Tourism Management*, 94, 104658. https://doi.org/10.1016/j.tourman.2022.104658

Kusdibyo, L. (2022). Tourist loyalty to hot springs destination: the role of tourist motivation, destination image, and tourist satisfaction. *Leisure/Loisir*, 46(3), 381-408. https://doi.org/10.1080/14927713.2021.1986420

Li, Q., Li, X., Chen, W., et al. (2023). Involvement, place attachment, and environmentally responsible behaviour connected with geographical indication products. *Tourism Geographies*, 25(1), 44-71. https://doi.org/10.1080/14616688.2020.1826569

Martínez García de Leaniz, P., Herrero, Á., & García de los Salmones, M. D. M. (2025). Communicating destination social responsibility through social media: the roles of tourists' social engagement, citizenship behaviors, and emotions. *Journal of travel research*, *64*(4), 929-949. https://doi.org/10.1177/00472875231225390

Moshiri Langroudi, N., Hosseini, S. A., & Mahmoudzadeh, S. M. (2024). From Set to Sustainability: Navigating the Challenges of Film Tourism. *Tourism management studies of the smart era*, *1*(1), 26-41. https://doi.org/10.22072/tmsse.2024.722044

Mou, N., Liu, Z., Zheng, Y., Makkonen, T., Yang, T., & Zhang, L. (2022). Cycling in Tibet: An analysis of tourists' spatiotemporal behavior and infrastructure. *Tourism Management*, 88, 104418. https://doi.org/10.1016/j.tourman.2021.104418

Nguyen, T. T. T., & Tong, S. (2023). The impact of user-generated content on intention to select a travel destination. *Journal of Marketing Analytics*, 11(3), 443-457. https://doi.org/10.1057/s41270-022-00174-7

Page, S. J., Connell, J., Price, S., Owen, S., Ledingham, K., & Clare, L. (2025). Operationalizing transformative tourism: Creating dementia-friendly outdoor and nature-based visitor experiences. *Journal of Travel Research,* 64(2), 337-359. https://doi.org/10.1177/00472875231217735

Ponsignon, F., Lunardo, R., & Michrafy, M. (2021). Why are international visitors more satisfied with the tourism experience? The role of hedonic value, escapism, and psychic distance. *Journal of Travel Research,* 60(8), 1771-1786. https://doi.org/10.1177/0047287520961175

Puh, K., & Bagić Babac, M. (2023). Predicting sentiment and rating of tourist reviews using machine learning. *Journal of hospitality and tourism insights,* 6(3), 1188-1204. https://doi.org/10.1108/jhti-02-2022-0078

Rather, R. A., Hollebeek, L. D., & Rasoolimanesh, S. M. (2022). First-time versus repeat tourism customer engagement, experience, and value cocreation: An empirical investigation. *Journal of Travel Research*, *61*(3), 549-564. https://doi.org/10.1177/004728752199

Rickly, J., & Canavan, B. (2024). The emergence of authenticity: Phases of tourist experience. *Annals of Tourism Research*, *109*, 103844. https://doi.org/10.1016/j.annals.2024.103844

Sasaki, H., & Yamamura, K. (2023). Topology optimization with Shapley additive explanations for permanent magnet synchronous motors. *IEEE Transactions on Magnetics*, *60*(3), 1-4. https://doi.org/10.1109/TMAG.2023.3325460

Seo, I. T., Liu, H., Li, H., & Lee, J. S. (2025). AI-infused video marketing: Exploring the influence of AI-generated tourism videos on tourist decision-making. *Tourism Management*, 110, 105182. https://doi.org/10.1016/j.tourman.2025.105182

Stepchenkova, S., Kirilenko, A., & Jo, Y. (2025). Authentication response to a tourist attraction video: Neuromarketing insights. *Annals of Tourism Research*, *114*, 104008. https://doi.org/10.1016/j.annals.2025.104008

Su, Q., & Li, F. S. (2023). How cute mascots affect relationships with tourism destinations: A moderated mediation model. *Tourism Management,* 99, 104782. https://doi.org/10.1016/j.tourman.2023.104782

Teng, H. Y., & Chen, C. Y. (2020). Enhancing celebrity fan-destination relationship in film-induced tourism: The effect of authenticity. *Tourism Management Perspectives,* 33, 100605. https://doi.org/10.1016/j.tmp.2019.100605

Valcuende, J. M., Blanco-López, J., & Pichardo, J. I. (2023). Media, cruising, gay sex and tourist destinations. *Annals of Tourism Research,* 101, 103598. https://doi.org/10.1016/j.annals.2023.103598

Viglia, G., Adler, S. J., Miltgen, C. L., & Sarstedt, M. (2024). The use of synthetic data in tourism. *Annals of Tourism Research,* 108, 103819. https://doi.org/10.1016/j.annals.2024.103819

Wang, R., Wu, C., Wang, X., Xu, F., & Yuan, Q. (2024). E-Tourism information literacy and its role in driving tourist satisfaction with online travel information: A qualitative comparative analysis. *Journal of Travel Research,* 63(4), 904-922. https://doi.org/10.1177/00472875231177229

Xu, H., Cheung, L. T. O., Lovett, J., et al. (2023). Understanding the influence of user-generated content on tourist loyalty behavior in a cultural World Heritage Site. *Tourism Recreation Research,* 48(2), 173-187. https://doi.org/10.1080/02508281.2021.1913022

Xu, J., Tang, X., Lin, H., & Luo, Y. (2025). The impact of recommender type on tourist price sensitivity to travel plans. *Journal of Travel Research,* 64(7), 1680-1700. https://doi.org/10.1177/00472875241261633

Yang, X., Zhang, L., & Feng, Z. (2024). Personalized tourism recommendations and the E-tourism user experience. *Journal of Travel Research,* 63(5), 1183-1200. https://doi.org/10.1177/00472875231187332

Yuliana, Y., Rini, E. S., Situmorang, S. H., et al. (2023). Mediating role of authenticity in the relationship between destination image and destination loyalty. *Innovative Marketing*, 19(4), 14. https://doi.org/10.21511/im.19(4).2023.02

Zhou, B., Xiong, Q., Li, P., et al. (2023). Celebrity involvement and film tourist loyalty: Destination image and place attachment as mediators. *Journal of Hospitality and Tourism Management*, 54, 32-41. https://doi.org/10.1016/j.jhtm.2022.11.004

Zhu, C., Fong, L. H. N., Liu, C. Y. N., et al. (2023). When social media meets destination marketing: the mediating role of attachment to social media influencer. *Journal of Hospitality and Tourism Technology*, 14(4), 643-657. https://doi.org/10.1108/jhtt-04-2022-0119