Grouping Analysis of QCA for International Ecotourism Destinations in Cloud Computing Era of Geo-ecology

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Abstract

INTRODUCTION: The Internet era has made the world more closely connected, and ecotourism has also caught up with the Internet era of cloud computing, making more and more international ecotourism destinations in China known to the world. China's global ecotourism industry has made significant progress, but it needs to be better to construct international ecotourism destinations. Therefore, conducts the grouping analysis of QCA of international ecotourism destinations in the cloud computing era of geo-ecology.

OBJECTIVES: To improve the construction level of China's international ecotourism destinations and promote the in-depth development of China's global ecotourism; to solve the dilemma that China's ecotourism destinations are imperfectly constructed, and the brand can not go out; and to promote the enhancement of tourism concepts of international ecotourism destinations in the age of computers.

METHODS: Firstly, the feasibility analysis of international ecotourism destination construction in the cloud computing era is carried out by using QCA analysis and histogram analysis; secondly, the relevant QCA model is established to analyze the influencing factors of international ecotourism destination construction; lastly, the tripartite game model is utilized to explore the benefits of international ecotourism destinations for the residents, the government, and the enterprises.

RESULTS: The construction of international ecotourism destinations in China is feasible from the perspectives of functional spatial configuration, economic development, cultural tradition, and natural environment; the structure of international ecotourism destinations has an apparent positive driving effect on the construction sites; the tripartite game model shows that there are positive benefits not only for the residents, government, and enterprises but also for the related groups and tourists.

CONCLUSION: From the full text of the study, the construction of international ecotourism destinations has a significant driving effect on China's economy; however, the tourism industry in the era of cloud computing needs to be further standardized, and the construction of international ecotourism destinations should be strengthened.

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1. Introduction

From the perspective of international strategy in the era of cloud computing, the "green industry" has become a new industry supported by the state, and tourism is a typical "green industry"(Nder & Gunter, 2022). At the same time, China will inevitably incorporate the construction of ecological civilization into the "five-in-one" development strategy, which has become the millennium plan for the sustainable development of Chinese society. The structure of ecotourism destinations is an essential foundation for developing ecotourism. Ecotourism research contributes

to implementing global and national scientific planning strategies and improves ecotourism destination countries' ecological and economic benefits (Pekovic, 2021). From the point of view of industrial development, the main participants in ecotourism are tourists and residents. The economic development of ecotourism requires the participation of tourists, but its construction and ecological level need the help and support of local people. To ensure the sustainable development of ecotourism, it is essential to consider the environmental responsibility of tourists and residents(Porto et al., 2022). Only by regulating and promoting local environmental behavior can people ensure a virtuous cycle for the local environment and help to coordinate the environmental development and economic benefits of ecotourism destinations. From the perspective of individual behavior, the ecological responsibility of ecotourism residents depends on various factors. With the development of civic consciousness, residents' confidence in society and willingness to participate in local socio-ecological governance gradually increase(Wang & Ye, 2022). On this basis, the sense of fairness and trust in the community in the cloud computing era is a critical factor in improving the behavior of ecotourism residents. It helps to clarify the rights and obligations of ecotourism residents when seeking breakthroughs in improving environmental behavior and promoting the overall development of green tourism.

Environmental protection is a shared responsibility of citizens, and tourism has distinct characteristics outside the premises, which may cause slightly different damage to the environment outside the premises(Shah et al., 2021). This issue has attracted a great deal of attention from the scientific community. In tourism theory research, environmentally responsible behavior in the cloud computing era has focused on tourists. Since economic profit and environmental protection are the main goals of tourism, a model of characteristics and factors affecting environmentally responsible tourism behavior was created to provide a theoretical basis for rationally managing and encouraging ecologically responsible tourism behavior(Li et al., 2022). However, tourism research needs to pay more attention to protecting the environmental responsibility of tourists. In this resident study, a research model was created to influence the eco-responsible behavior of residents in tourist destinations, providing a reference for relevant researchers to develop a theoretical model of the eco-responsible behavior of citizens in tourist destinations. There are more than 100 empirical studies in foreign countries, while in China, only a few quantitative studies focus on tourists. In addition, community integrity in the era of cloud computing is widely used in related fields such as organizational behavior and service marketing(Zhou, 2021). As China's economy enters a period of steady development, democracy and human equality are getting more and more attention in China. On this basis, the study of residents' environmental responsibility behavior using community justice and trust as an independent mediator expands the

empirical research on ecological responsibility behavior and the empirical research on community justice and trust(Kalogeros et al., 2023).

Moreover, it corrects the shortcomings in the current national empirical analysis. Based on presentations on the components of shared responsibility by national and international luminaries of the United Nations, it is concluded that variables indicate satisfaction, attitudes, and value of quantitative research on the components of shared responsibility. Many studies have been conducted based on program components as a voluntary social approach and social justice within the public. In the realm of organizational structure and marketing services, experts have acknowledged the significance of the exit vision throughout the cloud computing era. Social trust, the basis of social change, is a puzzle in sociology and psychology. Including both variables in the scope of the core response components of tourism is the basis for measuring the core response components of tourism.

Tourism development is the work of local governments and tourism businesses and the involvement of communities and residents(Lukoseviciute et al., 2021). Tourist attractions in the cloud computing era are responsible for the needs of the ecosystem and tourism infrastructure. To protect the environment, attention must be paid to the impact of tourists on the environment(Zhu, 2021). Based on research and studies, this article examines factors that are important influences on the behavior of environmentally responsible parties, including aspects of withdrawal and trust in the community, as well as government sensitivity to the importance of social development and protection of ecotourism areas(Yang & Xu, 2022). Residents, communities, individuals, and groups are encouraged to actively participate in constructing common tourism centers, emphasizing the subjectivity of justice and the trust of community citizens. The study of the co-responsibility of residents of tourist attractions in the era of cloud computing is of great significance for protecting and maintaining the ecological environment of tourist attractions. Ecotourism facilities are an essential part of ecotourism environmental protection(Puzdrakiewicz & Poom, 2021). Therefore, the efficiency of increasing the responsibility of tourism residents for the environment in the era of cloud computing is questioned to some extent. Many tourist destinations are located in villages, urban/rural areas, or rural areas, and regional management blames this for hindering relations with urban management(Bu et al., 2023). Government and business interest in tourism continues to improve management methods and levels, taking triple responsibility for tourism development, local ecological and environmental protection, and maintenance of residents' livelihoods. The present discourse revolves around the collective interests of local government, businesses, and the community in promoting sustainable development. Specifically, it addresses the significance of maintaining a harmonious balance between tourism and environmental preservation and the intricate interplay between population dynamics and the environment.

Furthermore, the discussion encompasses the various aspects of tourist development and the potential benefits of implementing management incentives in this domain.

2. Background of the study
2.1 Behavioral and perceptual theories of environmental responsibility

Environmental liability is the first theory of ecological liability to fight pollution proposed by foreign researchers. Environmental responsibility is a means of reducing environmental damage. The concept of environmentally responsible behavior has been gradually enriched with national and international research, and researchers have been improving progressively the study of environmentally responsible behavior(Borba et al., 2021). The definition of terms is similar. Environmental behavior in the era of cloud computing refers to all measures taken by individuals or groups to promote sustainable development and exploitation of ecological resources, mainly by consciously reducing the negative impacts of individual behavior on nature(Fanghella & Thgersen, 2022). Environmental behavior is collective behavior based on group altruism, and its primary goal is to reduce consumption and sustainable use of natural resources. Although the concept has many terms, it contains three essential elements: individual and collective, environmental protection, and action. Based on these definitions, this study combines the understanding of this paper with the reality of protecting the ecological responsibility of residents in ecotourism destinations(Lin et al., 2022). The study based on the three pillars of environmental responsibility in the era of cloud computing defines ecological responsibility as the measures and behaviors that communities and local communities collectively take to protect the local environment, sustainably exploit natural resources, and ensure sustainable development.

Perception theory first appeared in 1965. As the term comes from abroad, expressions are based on the theory of justice, personal perception, and perception of justice in the environment and things. Perception of justice reinforces positive attitudes and behaviors of individuals and groups, while perception of injustice leads to negative mindsets and behaviors of individuals or groups. Researchers at home and abroad have widely accepted concepts and theories related to the sense of justice. This study in the era of cloud computing extends the idea of the justice perspective to the justice perspective of ecotourism destinations. Concepts based on traditional legal theories and conceptual dimensions of experiential law are defined as procedural and interactive justice experienced by residents. Procedural justice refers to the public's belief that the decision-making, implementation, and system enforcement processes are transparent and fair. Equitable distribution refers to whether residents believe that the public's benefits are appropriately and legitimately distributed, that their contributions are equal,

and that uniform criteria are used in the benefit distribution mechanism(Gerrits & Pagliarin, 2021). Interactive equity in the cloud computing era refers to whether the residents of the ecotourism area have legal and legitimate ways to express their opinions and whether they can communicate with the state and the company to express their views and participate in decision-making.

2.2 Status of ecotourism

By 2021, in the era of cloud computing, ecotourism will no longer be a reactive change but a change adapted to market and consumer needs, a breakthrough in the standard management of coronavirus outbreaks in 2019. In China, several keywords are widely used in different areas: parks, forest trails, frozen wonders of rural tourism, etc. Since establishing the Organic Tourism Technical Committee of the People's Republic of China in 2021, the Chinese government has established the Organic Tourism Technical Committee(Fernandez, 2021). The cloud computing era further promotes the specialization of green tourism knowledge and technology in China, contributing to achieving low-carbon and green development goals and leading in green tourism. According to the National Forest Ecotourism Management System, more than half of China's 800 million tourists in 2021 will travel to forests and grasslands. China is taking effective measures to promote ecotourism development: 1) Incorporating ecotourism into the 14th Five-Year Industrial Development Plan indicates the future direction and orientation of ecotourism. On this basis, the Cloud Computing Era scientifically evaluates and plans regional ecological resources, systematically integrates elements of ecotourism development, and formulates regional ecotourism development plans tailored to local conditions.2) Accelerating the revitalization of ecotourism. According to the actual impact of the epidemic on ecotourism enterprises, formulate systematic support strategies for financial support, financial support, and tax incentives. By the scientific principle of drawing ecological red lines, establishing an ecosystem resource value assessment, clarifying core, buffer, and test zones, enriching the types of ecotourism products, and improving the ecotourism chain system; develop ecotourism products by local conditions, and improving the overall added value of ecotourism products.3) Continuously improve public services and develop ecotourism. Clarify the rights and obligations of companies, the licensing procedures, construction standards, and the evaluation system of ecotourism projects. It is necessary to establish a reward and punishment mechanism, coordinate the behavior of tourism companies, regularly assess and calculate ecotourism resources, further improve the quality of new product development, and improve the construction of a certification system for ecotourism management. The citizen participation system should be improved to promote community building and joint management of

ecotourism. Ensure that ecotourism enterprises receive appropriate tax exemptions in the era of cloud computing to reduce financial costs and enhance their motivation and creativity in developing ecotourism. The central and local governments should actively implement relevant tax policies and set up special funds for ecotourism.

3. Research methodology
3.1 QCA analysis

Qualitative comparative analysis is a new research method introduced in 1987. The confidence in the results in the era of cloud computing is not the result of one factor but several factors. Therefore, QCA is usually used to explain the combination of conditional variables that lead to the consequences (Altarawneh & Tarawneh, 2021). A model of influencing factors based on configuration theory was developed, and the configuration of causal variables was analyzed using the QCA method. The influence of the combination of conditional variables on the distribution of public space functions in international ecotourism destinations was investigated in the era of cloud computing.

Configuration theory is derived from systems thinking and is usually studied analytically. In systems theory, organizations in the cloud computing era are defined as complex systems whose components cannot be analyzed separately. "Behavior" is a multidimensional combination with different conceptual characteristics, but often parallel. Systems theory recognizes that the outcome of an event does not depend on one factor but on the interdependence and combination of many factors(Grillitsch et al., 2022). The variety of multiple factors can lead to the same outcome. Unlike traditional analytical methods, structural analysis focuses on the complex causal relationships between influencers and products to better explain the complex relationships between things.QCA is a research method based on group theory. It can use case studies to analyze influencers' event combinations in the cloud computing era. Tourist environmental responsibility behavior, as shown in Figure 1.
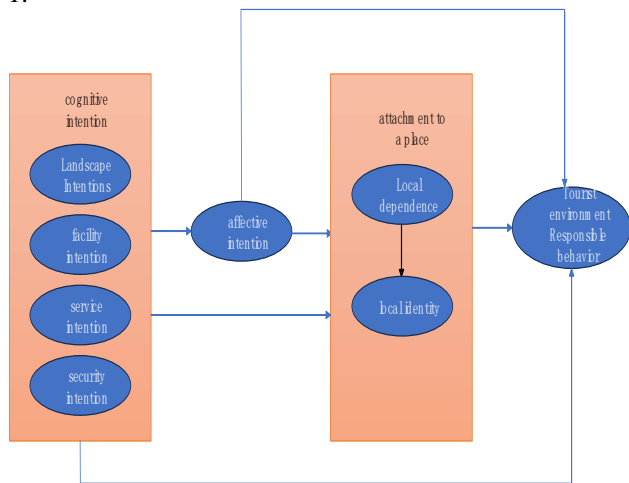

Figure 1 Tourist environmental responsibility behavior

Qualitative Comparative Analysis (QCA) is a case-based theoretical quantitative analysis proposed in 1987. The researcher argues that the causal variables of social phenomena in the cloud computing era are independent of their impact on the outcome and that most causal variables are interdependent. Therefore, it is necessary to explain the causes of social phenomena from a holistic and comprehensive perspective. Therefore, QCA focuses on the configurational path, a combination of many conditional variables affecting the outcome variable in the cloud computing era. At the same time, ACQ argues that the combination of dependent variables produced by the expected outcome is asymmetric and should be analyzed separately to better explain the differences between the two situations. The QCA model utilized in this paper is as follows:

$$QCA-R = \frac{n \times K}{1-(n-1) \times K} \quad (1)$$

Equation (1) tests the reliability of the QCA for ecotourism purposes, and the K in the numerator is the average reliability, as is the nature of the K in the denominator. The value of K is calculated as follows.

$$K_{1,2} = \frac{2M}{N1+N2} + \delta$$

(2)

In Equation (2), the value δ is the error value of the random variable, and only one error is considered in this paper.

For the calculation of ecological coverage in international ecotourism destinations, it can be considered using Equation (3).

$$Coverage(X_i < Y_i) = \frac{\sum \min(x_i, y_i)}{\sum Y_i} \quad (3)$$

The coverage in Equation (3) is to be calculated at the minimum level and is a summation of the min-min values.

$$\text{Cos} istency(X_i \leq Y_i) = \frac{\sum \min(X_i, Y_i)}{\sum X_i} \quad (4)$$

The consistency between the eco-efficiency of Equation (4) and the efficiency of the tourism industry uses the sum of eco-efficiency as the denominator.

$$U_W^x = zy(-R_1 - R_2 - C_1 + E_1) + (1-y)z(-R_2 - C_1 + E_1) \quad (5)$$

Equation (5) is the expected return of international ecotourism destinations, where the coefficient 0<y<1.

3.2 Principles and Steps of Configuration Analysis

The advantage of QCA is the combination of qualitative and quantitative methods. Traditional qualitative research can only analyze a few cases and cannot guarantee the generalizability of the results. However, by comparing and analyzing several issues using scientific statistical methods in the cloud computing era, QCA can help disseminate findings. Cloud Computing Age QCA can examine the impact of different combinations of variables on outcomes by comparing multiple cases, creating

pathways for influencer configurations, and better explaining complex causal relationships.

It is necessary to establish a research framework and define the parameters of conditions and outcomes that must be measured against set theory and case data and adapted to the current field of study. The cloud computing era acquires data based on real-world conditions, availability, and reliability. It defines code standards for variable decomposition, another crucial step in calibrating the data based on the fundamentals of Burg Algebraic Dichotomy. Based on theoretical criteria and practical examples in the cloud computing era, the researchers defined three thresholds: complete attributes, non-conformity, and fuzzy points to calibrate several undefined variables. The two key metrics for assessing the results of past QCAs are coverage and consistency. They are analyzing the results. The truth table was simplified according to Berg's logic. Qualitative comparison and analysis of fuzzy levels in the cloud computing era offers three solutions: repetition, simplification, and indirection. Three intermediate solutions are usually chosen to determine the conditional configuration path. In this study, Cloud Computing Times uses the Fuzzy Set Qualitative Comparative Analysis (FSQCA) approach to investigate the causes and methods of targeting high and low levels of public space activities in international ecotourism landscapes. The linking paths of the grouping analysis are shown in Figure 2.
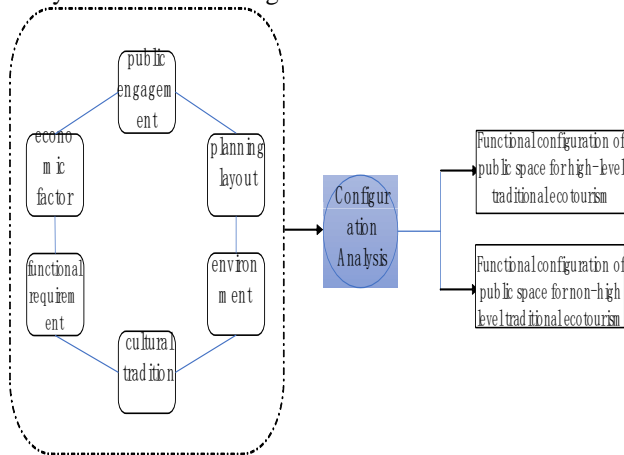

Figure 2 Link path for configuration analysis

3.3 Research design and data collection

This paper focuses on the functional elements of public space planning in international ecotourism destinations, and the examples should be representative and diverse. At the same time, the Cloud Computing Era needs to select the number of case models according to the QCA method. Therefore, in the Cloud Computing Era, based on the requirements of QCA methodology, this paper develops case sampling criteria, firstly, diversity(Kim et al., 2021). Maximizing the variety of case models and minimizing the selection of case models; second, for scientific reasons, the selected cases must be formally endorsed by

international ecotourism destinations to provide a scientific basis for the study results. Third, the cloud computing era fully considers credibility, the ease of access to sampled data, and the reliability of the relevant data.

Information on the selected topics was collected in two ways: one was the research conducted as part of the International Ecotourism Spatial Planning Project in the Cloud Computing Era. The most important research methods were on-site surveys and interviews to understand the current situation of international ecotourism destinations and collect information on public spaces' functional distribution. When distributing the questionnaires, it should be noted that the number of users per region, gender, and age group is approximately the same. This study collected personal data by sending 570 questionnaires to 19 international ecotourism websites and collecting 19 critical documents, policies, and media reports from international environmental organizations through search engines, China Knowledge Network, and several local government portals. The model of ecological responsibility for eco-tourism in the cloud computing era is shown in Figure 3.
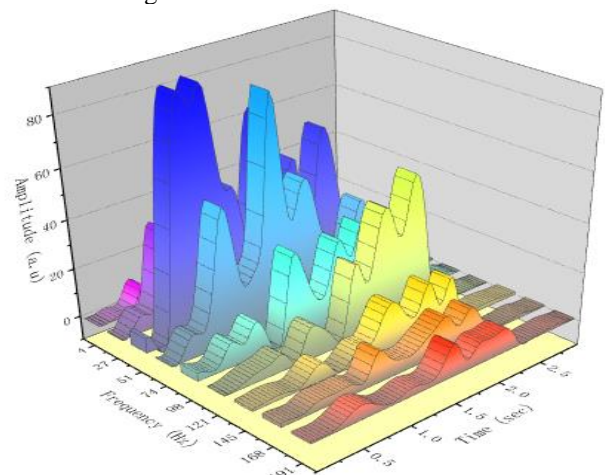

Figure 3 Ecotourism Environmental Liability Model-Tourists

Based on the configuration theory, the Cloud Computing Era has established a model of factors affecting the functional configuration of public space in international ecotourism destinations and identified the variables that determine the effectiveness of the available public space design in international ecotourism places. It can be categorized into two types: the functional configuration of high-level public space and bottom-level public space in the Cloud Computing Era. The output variable is shown as "cx" to simplify the clauses. By studying international ecotourism destinations and utilizing relevant literature to assess the effectiveness of public space use, the Cloud Computing Era study measured public space satisfaction with the allocation of functional public space in international ecotourism destinations.

Based on the practical experience of the study and in consultation with several experts and researchers, six compelling conditional variables were selected to identify

variables in the literature. Appropriate results were determined to improve the impact of existing researchers on the functional composition of public space in the era of cloud computing. At the same time, based on the basic principles of objectivity, complexity, functionality, and the combination of qualitative and quantitative, and based on the scientific, usable, and systematic availability of information, six conditional variables were selected, and the relationship between the variables and the influencing factors were visualized in tabular form. The importance and content of the indicators are specifically analyzed below.

This paper uses a questionnaire and five Likert scores to collect variable data. By the principle of data reliability, each variable is summarized and used as the basis for the QCA analysis. To ensure the reliability and accuracy of the questionnaire in the era of cloud computing, this paper applies the questionnaire's descriptions and measurements to well-designed measurement scales that have been used repeatedly by experts and researchers in the field. Moreover, prepare a questionnaire. Then, the field survey and questionnaire data were processed using the QCA method. This paper used the Likert five-level scale method to collect case samples through questionnaires. The information reflects some changes. Therefore, this paper uses the more general qualitative fuzzy multiple comparison analysis (FSQCA) in data processing.

On this basis, FSQCA 3.0 software was analyzed to identify the factors and configuration paths that influence the functional configuration of public space in international ecotourism destinations in the era of cloud computing. In addition, the positive and negative factors affecting the distribution of public space activities in international ecotourism destinations were analyzed. In the empirical analysis of global ecotourism landscapes represented by CX, the functional configuration of public space is high. This paper examines the factors affecting public space's active structure in top-level international ecotourism destinations in the era of cloud computing. At the same time, the reverse analysis refers to the functional configuration of public space in low-level global ecotourism landscapes. With the help of "CX," the combination of factors affecting the active structure of public space in low-level international ecotourism landscapes is analyzed. In this paper, the ratio of "high" and "low" is not absolute numerical equivalence, so it is necessary to understand the meaning of "high" and "low" from the perspective of set theory. Therefore, "high" and "low" must be understood from a set theory perspective. Based on the variables developed in the survey and the primary quality assurance data affecting the allocation of public space activities in international ecotourism destinations, the results of the variable portion of public space activities in international ecotourism destinations in the era of cloud computing are summarized. Based on the functional distribution of public space in international ecotourism-integrated destinations, a specific evaluation of the available distribution of public places in international ecotourism destinations in the era of cloud

computing is proposed. Data with the same value should be processed in two decimal places—ecotourism fluctuation in the cloud computing era, as shown in Figure 4.
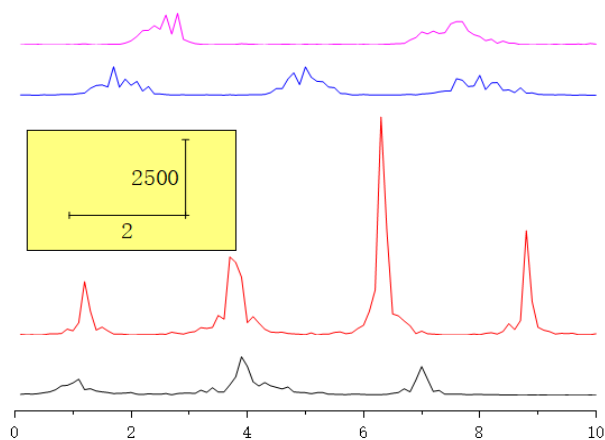

Figure 4 Ecotourism fluctuations in the era of cloud computing

4. Results and discussion
4.1 Analysis of factors influencing international ecotourism destinations

Economic development in the era of cloud computing is an essential basis for public space activities in international ecotourism destinations. The most critical factor determining public space construction is the economic and income levels of the residents of international ecotourism destinations. The financial strength of international ecotourism destinations in the era of cloud computing depends on their level of economic development, which directly affects the availability and quantity of public space infrastructure in international ecotourism destinations. The income level of residents in the cloud computing era determines their lifestyles and activities. It impacts public space's operational needs and quality in international ecotourism destinations. The accessibility of international ecotourism destinations promotes the economic development of international ecotourism destinations.

Public spaces in the era of cloud computing are the most direct source of human activities that meet the functional needs of human production and life. The existence and behavior of human beings as the service object of public space give them meaning and influence the construction and development of public space. According to the theory of the three main functions of international ecotourism public space in the cloud computing era and related research results, the public space of global ecotourism is divided into the living environment, production facilities, and ecological space based on the unique characteristics of users and functions, which can be summarized into three dimensions: demand for essential functions, request for production functions and demand for environmental processes. The impact of functional needs on the active

configuration of public space in international ecotourism landscapes is selected from three specific indicators: practical production needs, housing needs, and ecological needs in the cloud computing era—comparison between ecotourism and traditional tourism (I), as shown in Figure 5.
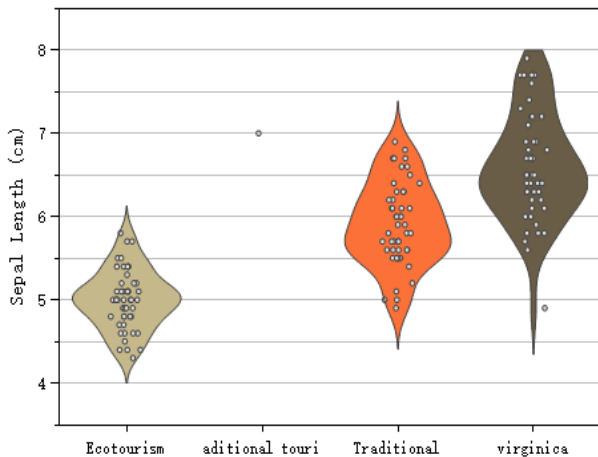

Figure 5 Ecotourism vs. traditional tourism (I)

The natural environment includes geography, climate, and nature. Different landscapes in the era of cloud computing can influence the geography, shape, and distribution of public space. Differences in residents' vacation choices are reflected in different climatic conditions. In addition, these climatic differences affect the body and layout of public spaces. Natural resource management in the age of cloud computing is crucial for promoting environmental sustainability and is an essential factor influencing the design and quality of public spaces. Three indicators, topography, climate, and natural resources, were chosen to measure the influence of nature on the distribution of public space activities in international ecotourism destinations.

Intelligent design of public spaces in the age of cloud computing increases the attractiveness of public spaces and influences the motivation, spontaneity, and vitality of public space users. Therefore, the design of a general area consists of five components: the public space's size, the space's continuity, and the availability and diversity of auxiliary rooms and functions. The spatial scale reflects the comfort level of public space. Accessibility in the age of cloud computing is an important measure of public funding. Maintaining objects in public areas is essential in the daily lives of users. The diversity of activities in public spaces leads to different site activities. The variety of activities influences the layout and vitality of public spaces. Therefore, four indicators, area size, accessibility, infrastructure, and operational diversity, were selected to measure the impact of planning and development of international ecotourism on the distribution of activities in public space. Comparison between ecotourism and traditional tourism in the cloud computing era (II), as shown in Figure 6.
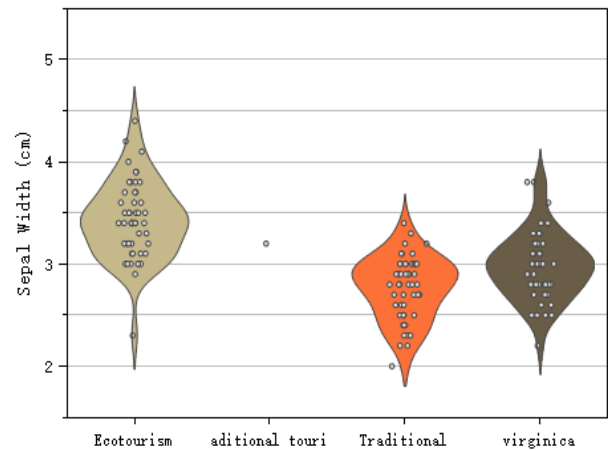

Figure 6 Ecotourism vs. traditional tourism (II)

4.2 Evolution of the tripartite game in ecotourism destinations

The beneficiaries of ecotourism in the cloud computing era are government agencies at all levels, tourism organizations, industry associations, residents, tourism companies, and consumers. It has three levels: administrative control, public service provision, and tourism consumption. The administrative authorities in the cloud computing era are government agencies at all groups, tourism research organizations, and relevant industry associations, which are mainly direct external participants in ecotourism. They contribute to the development of ecotourism by funding specific services and consumer protection policies, consumer education, and service provision. The supply side refers to the role of tourism companies and residents in developing ecotourism, leading to cost transfers, tourism product sales, and information exchange. Consumers in the cloud computing era are ultimately involved in ecotourism consumers and ecotourism projects, and tourism consumers realize the sustainability of ecotourism by consuming ecotourism products, resulting in the ecotourism cycle. The three main ecotourism groups (managers, suppliers, and consumers) have their roles and interests and play a vital role in the sustainable development of ecotourism within and between groups. The interest groups must collaborate to develop sustainable, high-quality, healthy ecotourism. As a starting point for finite rationality, the three parties modify their strategic choices through a dynamic game to eventually find a better combination of strategies.

The basic premise of the decision-making process in the cloud computing era is the plausibility of the evolutionary theory of object gaming, i.e., the relationship between finite, perfect, and imperfect thinking. Regulators, suppliers, and consumers repeat sales strategies by observing, researching, experimenting, testing, and challenging themselves. Given the data asymmetry between the three stakeholders, quickly making the best

strategic choices in the face of changing realities is impossible. This process repeats itself in a dynamic game and eventually finds a balance in the strategy mix. The cloud computing era examines the strategic balance and integration between different stakeholders and the construction of dynamic and scalable 3D models between managers, suppliers, and consumers.

This paper examines the dynamic development process and tripartite equilibrium of ecotourism stakeholders in the era of cloud computing. It looks at the communication patterns of ecotourism strategies in two typical complex networks. Administrative auditors should use their monitoring capabilities in strict compliance with control policies. Cloud computing era suppliers are encouraged to improve their reputation by implementing fair trade practices and increasing support for ecotourism consumers. To promote the consumption of cloud computing-era tourism, service providers offer their services through various channels to increase revenues and achieve the goals of sustainable ecotourism and quality development. Promoting ecotourism strategies can be facilitated by utilizing the internal factors of the tourism industry to improve the average network among them. However, it is not appropriate to unquestioningly expand the linkages between tourism companies. If company relations are too close, the ecotourism strategy will not be widely implemented, and resource costs will be wasted.

Regarding external tourism factors, the environmental awareness of some tourism consumers will accelerate the spread of ecotourism strategies. However, if the share of organic consumers approaches 90%, it will exceed the current capacity of the tourism industry and encourage other sectors to switch to ecotourism. Ecotourism versus conventional tourism (iii), as shown in Figure 7.
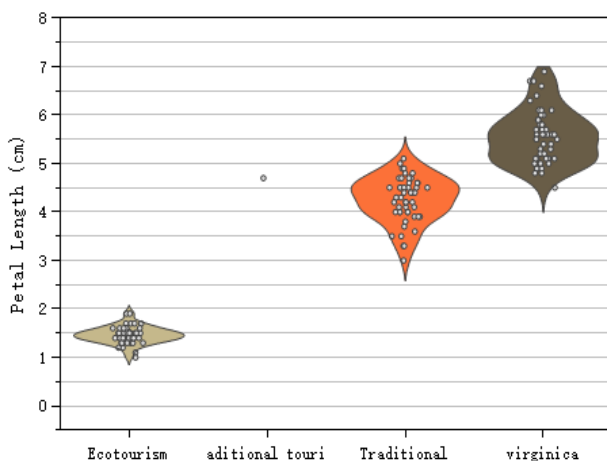

Figure 7 Ecotourism vs. traditional tourism (III)

4.3 Perception level of residents of ecotourism destinations in the context of perception theory

The study shows that when establishing ecotourism destinations in the cloud computing era, attention should be paid to the residents' fair opinions and the appropriate positioning mechanism of ecotourism. Firstly, there is a need to establish proper decision-making, policy-making, and implementation procedures in tourism development. Decisions on issues related to the general interest and development of the tourism industry in the cloud computing era should be made after consultation with the public. Policy formulation should consider efficiency and long-term sustainability, maintain uniform standards throughout the implementation process, adhere strictly to regulations and rules, and ensure appropriate consistency throughout the planning and implementation process. Tourism enterprises should strictly comply with the regulations governing scenic spots and the management of scenic spot employees and introduce a flexible and reasonable competition mechanism for large, small, and micro tourism enterprises. The allocation of human, material, and economic resources to the development and construction of green tourism can be rewarded fairly, reasonably, and stable. Community residents can share local social, economic, cultural, natural, and other resources, including free landscape access. A vital role in promoting and implementing interactive justice is transforming government into a service-oriented government that enables businesses to exercise their rights and assume appropriate social responsibilities. At the governmental level, open communication channels between the state, companies, and the public so that social and online monitoring does not impede the development and management of tourism and that developmental behaviors ensure social acceptance and compliance with rules. At the company level, the development of tourism companies in the cloud computing era should prioritize socially responsible tourism development plans, actively engage with people to understand the needs of locals and tourists, provide quality services, and protect the interests of all parties. Encourage workers and residents to participate in tourism development.

Descriptive statistical studies show that residents of ecotourism destinations in the cloud computing era are less educated and have a more comprehensive range of occupations. However, most of them belong to traditional industries. Tourism development in ecotourism destinations in the cloud computing era is relatively uniform and standard. To develop this region, a solid foundation for talent is needed. Only then can the resources be fully utilized to lead the industry toward better quality, efficiency, and faster development.

Firstly, the Office of Ecotourism provides new ideas, techniques, and guidelines to modernize the local ecotourism industry and promote innovative development. Secondly, the cloud computing era focuses on training tourism professionals, raising local awareness of environmental responsibility, active participation in tourism services, developing integrated business skills, business tourism, and related sectors. Tourism is the primary sector of ecotourism. One of them is to

strengthen the promotion of tourism and education in social institutions and to increase public awareness and skills on the local environment and related knowledge. Regularly organizing training for experts in this field, exams for tourism companies, and technical adjustments at the company level; and the third is to improve the level of education in the area, increase the number of young talents, familiarize young people with specific local industries, incorporate their interests, improve their skills, and take advantage of the welfare of school employees to attract foreign talents to create jobs. Finally, the cloud computing era requires an improved understanding of innovation capabilities. Therefore, it is necessary to raise awareness of innovation among governments, enterprises, social organizations, and residents of ecotourism destinations, to strengthen the training of innovation capacity, to improve the development of innovation capacity, to support tourism enterprises, and to strengthen the integration of tourism with other sectors. Creating diverse industrial environments, introducing technological measures and conservation methods, and innovation in ecotourism management. Comparison between ecotourism and traditional tourism (IV), as shown in Figure 8.
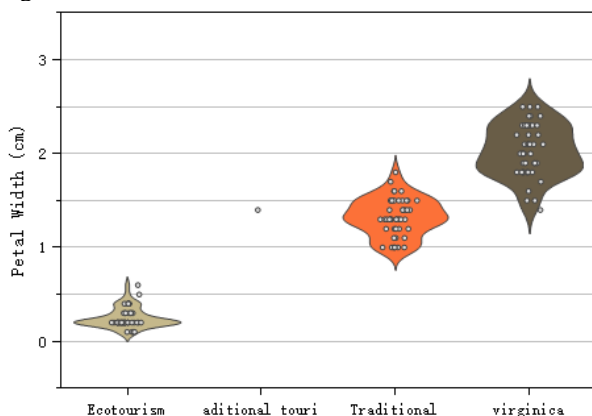

Figure 8 Ecotourism vs. traditional tourism (IV)

Despite the higher level of responsibility of the community for environmental responsibility in the cloud computing era, it is still related to ecological responsibility and personal factors. Municipalities, companies, and residents are the leading players in ecotourism in the cloud-computing period. Based on research data and practical experience of social development in China, it was found that trust relationships influenced by Chinese society positively impact social development. Tourism companies should benefit the community by promoting fairness and mutual trust between ecotourism, land use, and entrepreneurs. While developing eco-tourism in the age of cloud computing, it is essential to continuously strengthen local ecological levels, production, and infrastructure so that residents can enjoy as much comfort as possible. Most importantly, local tourism companies and business associations have deepened their understanding and improved the management and visibility of leading companies. Specific geographic and popular habits have been created because

the development of tourism does not affect the life and production of the population or the result of tourism.

5. Conclusion

Based on the configuration theory in the cloud computing era, the factors affecting the configuration of public space activities in international ecotourism destinations were analyzed, and a model of influencing factors for the design of public space behaviors in international ecotourism destinations was established. For example, among China's 19 best international ecotourism destinations, six critical factors were selected as conditional variables: economic factors, operational needs, cultural traditions, environment, planning system, and public participation. The layout of public space has a variable impact on the function of international ecotourism landscapes. The field study and questionnaire survey identified the main benefits of allocating public space to the IECL. In the configuration analysis, QCA analyzed the effects of different combinations of factors on the functional allocation of public space in the international ecotourism landscape. It was concluded that the available distribution of public space in international ecotourism areas in the cloud computing era depends on several factors. The functional design of public space in international advanced ecotourism destinations depends on more than one factor. Based on the configuration theory, a factor model of the available configuration of public space in international ecotourism destinations in the era of cloud computing is established. The factors affecting the functional distribution of public space in international ecotourism destinations are analyzed. When analyzing the applicable allocation requirements of public space, the order of the six conditional variables, economic factors, functional conditions, cultural traditions, natural environment, planning system, and public participation, remains unchanged. None of them are prerequisites for allocating public space activities to international ecotourism destinations, which indicates that this factor does not influence the distribution of public space projects to international tourism destinations. However, the allocation analysis using the QCA methodology suggests that the functional allocation of public space in international advanced ecotourism destinations in the cloud computing era includes allocation paths based on a combination of factors, being many factors that influence the functional design of public space in international ecotourism countries. It also suggests that the available method of public spaces in international ecotourism destinations can be improved through multiple configuration routes.

References

[1]   Altarawneh, Z., & Tarawneh, M. A. (2021). Design and Analysis of QCA-Based Physical Unclonable

Functions for Hardware Security. International Journal on Engineering Applications, 357(356), 45–56.

[2] Borba, L. A., Broseghini, L. D. R., Manosso, L. M., Moura, A. B. D., & Réus, G. Z. (2021). Environmental enrichment improves lifelong persistent behavioral and epigenetic changes induced by early-life stress. Journal of Psychiatric Research, 35(35), 45–60. https://doi.org/10.1016/j.jpsychires.2021.04.008

[3] Bu, N., Kong, H., Wang, K., Qiu, X., & Cheung, C. (2023). Thirty years of artificial intelligence (AI) research in the hospitality and tourism industry. International Journal of Contemporary Hospitality Management, 35(6), 2157–2177. https://doi.org/10.1108/IJCHM-03-2022-0354

[4] Fanghella, V., & Thgersen, J. (2022). Experimental evidence of moral cleansing in the interpersonal and environmental domains. Journal of Behavioral and Experimental Economics (Formerly The Journal of Socio-Economics), 97(45), 45–56.

[5] Fernandez, E. B. (2021). Software engineering in the era of cloud computing. Computing Reviews, 5, 62.

[6] Gerrits, L., & Pagliarin, S. (2021). Social and causal complexity in Qualitative Comparative Analysis (QCA): Strategies for emergence. Routledge, 4, 56–69.

[7] Grillitsch, M., Sotarauta, M., Asheim, B., Fitjar, R. D., Haus-Reve, S., Kolehmainen, J., Kurikka, H., Lundquist, K. J., Martynovich, M., & Monteilhet, S. (2022). Agency and Economic Change in Regions: Using Qualitative Comparative Analysis (QCA) to Identify Routes to New Path Development. Papers in Innovation Studies, 24(24), 34–44.

[8] Kalogeros, E., Gergatsoulis, M., Damigos, M., & Nomikos, C. (2023). Efficient query evaluation techniques over large amounts of distributed linked data. Information Systems, 34(34), 56–60. https://doi.org/10.1016/j.is.2023.102194

[9] Kim, J. H., Ahn, S., & Lee, E. (2021). Effect of Power Message on Employee Response and Job Recruitment in the Hospitality Industry. Journal of Hospitality & Tourism Research, 34(45), 109634802110109.

[10] Li, H., Zhu, L., & Zheng, M. (2022). Is the cruise enterprise giant also a giant of social responsibility for sustainable development? Marine Policy, 138, 105009-.
https://doi.org/10.1016/j.marpol.2022.105009

[11] Lin, M. T. B., Zhu, D., Liu, C., & Kim, P. B. (2022). A meta-analysis of antecedents of the pro-environmental behavioral intention of tourists and hospitality consumers. Tourism Management, 45–56. https://doi.org/10.1016/j.tourman.2022.104566

[12] Lukoseviciute, G., Pereira, L. N., & Panagopoulos, T. (2021). Assessing the income multiplier of trail-related tourism in a coastal area of Portugal. International Journal of Tourism Research, 56(67), 342–351.

[13] Nder, I., & Gunter, U. (2022). Blockchain: Is it the future for the tourism and hospitality industry?: Tourism Economics, 28(2), 291–299. https://doi.org/10.1177/1354816620961707

[14] Pekovic, S. (2021). Green pull motives and overall tourist satisfaction: A macro- and micro-levels analysis. International Journal of Contemporary Hospitality Management, ahead-of-print(ahead-of-print), 298–306.

[15] Porto, N., Ramos, V., & Luna, L. I. (2022). Application of PCA with georeferenced data in the tourism industry: A case study in the province of Córdoba, Argentina: Tourism Economics, 28(2), 559–579. https://doi.org/10.1177/1354816620987681

[16] Puzdrakiewicz, K., & Po舷om, M. (2021). Development Prospects of Tourist Passenger Shipping in the Polish Part of the Vistula Lagoon. Sustainability, 13(10), 34–50. https://doi.org/10.3390/su13105343

[17] Shah, S. M. M., Ahmed, U., Ismail, A. I., & Mozammel, S. (2021). Going Intellectually Green: Exploring the Nexus between Green Intellectual Capital, Environmental Responsibility, and Environmental Concern towards Environmental Performance. Sustainability, 13(12), 34–44. https://doi.org/10.3390/su13116257

[18] Wang, G., & Ye, L. (2022). Spatial-Temporal Pattern of Mismatch Degree of High-Quality Tourism Development and Its Formation Mechanism in Taihu Lake Basin, China. Sustainability, 14(45), 12–25.

[19] Yang, X. S., & Xu, H. (2022). Producing an ideal village: Imagined rurality, tourism and rural gentrification in China. Journal of Rural Studies, 234(234), 68–75. https://doi.org/10.1016/j.jrurstud.2022.10.005

[20] Zhou, M., Bo Zhang. (2021). Continuous leakage-resilient certificate-based encryption scheme and application in cloud computing. Theoretical Computer Science, 860(1), 23–40.

[21] Zhu, S. K., Lingxue Li. (2021). Is sustainable development reasonable for tourism destinations? An empirical study of the relationship between environmental competitiveness and tourism growth. Sustainable Development, 29(1), 56–66. https://doi.org/10.1002/sd.2131