Research on the formation mechanism of rural tourism performance differences
Jing Yan, Jie Gao, and Wei Tang*
Guangxi Vocational College of Technology and Business, College of management
* koko0720@sina.com

Abstract. As the main measure of the development level of rural tourism industry, the exploration of the factors influencing rural tourism performance has become the focus of academic attention. To this end, the qualitative comparative analysis method of multivariate combinations is used to explore the grouping paths affecting rural tourism performance with the natural material conditions of rural tourism sites, villagers' self-organisation, rural tourism demonstration grades, informal and formal systems as conditional variables, and the annual total income of rural tourism sites as outcome variables. The results show that (1) of the 32 combinations of conditions present in the five antecedent variables, there are a total of four conditional paths consistent with a high performance outcome. (2) The consistency of the antecedent condition group states is greater than the theoretical threshold of 0.8, and the four sufficient condition paths for high performance rural tourism operations, with an overall coverage of 0.668, are able to explain 66.8% of the condition combinations of high performance rural tourism, which has considerable explanatory power. (3) Among the various conditional paths, informal system and formal system are the single elements with the highest frequency of occurrence among the different elements, and the other conditional elements need to merge the two and co-exist regardless of the path. Therefore, informal and formal institutions are significant for enhancing rural tourism performance.

Keywords: Rural tourism; performance; Informal rules; formal system; fsQCA.

1. Introduction

The benign development of rural tourism can not only meet the emotional needs of tourists and inspire the self-confidence and pride of local villagers, but also promote employment, attract rural labour and improve infrastructure[1]. However, it still faces negative impacts such as ecological damage, land fragmentation, and the weakening of rurality. In the new period and under the new situation, the development of rural tourism in China has entered the 2.0 stage, which is characterised by the transformation of rural tourism from a single type of tourism to the development of rural tourism destination construction, for which it is extremely important to explore the governance paths to enhance the performance of rural tourism[2].

Based on the low exclusivity of the rural tourism resource system and the competitiveness of the resource units, this paper defines the rural tourism destination as a public pond resource to take 15 villages developing rural tourism in China as an example, and adopts the QCA method to explore the antecedent conditions and groupings of the high performance of the development of rural tourism, and explores the combination of the influencing factors affecting the performance of the rural tourism by taking the annual gross income of the rural tourism villages as a criterion of the performance considerations.

2. Theoretical foundation

2.1 Theory of Governance of Commons

The biggest functional difference between urban and rural areas is that urban areas are able to supply more pure public goods, such as education, health care, financial services, etc.; while rural areas are able to supply more public things, i.e., ecological environment, social customs, cultural heritage, and living space.
According to Pisano's[3] discussion of the law of industrial development, the development of any industry requires the formation of an industrial commons, in order to enable the development of industrial clusters to obtain a common technological (value) base. Thus, the development of the rural tourism industry also requires the formation of an industrial commons for rural tourism, so that the various tourism products can obtain the corresponding value from a common value commons. The value commons (hereinafter referred to as the tourism commons) that provide tourism products in the region are the natural landscape and cultural resources in the region.

With regard to the governance of the commons, scholars at different times have made more detailed arguments. Ostrom[4] explored the problems faced in the governance of the commons by analysing more than 5,000 successful or failed cases of governance of the commons, and put forward the framework of Institutional Analysis and Development (IAD), which argues that locally adapted institutional design can effectively overcome the problem of the tragedy of the commons. Ostrom argues that "A large number of public pond resource problems in human societies are not in fact solved by relying on the state nor through the market; self-organisation and self-government in human societies are in fact institutional arrangements for more effective management of the commons."

2.2 Configuration theory

Based on "multiple concurrent causation", group theory believes that the path leading to the same outcome should have multiple factors, i.e., different combinations and configurations of multiple factors will generate equivalent paths[5], and provides systematic explanations for complex problems by integrating thinking and theory. The perspective of group theory is to view social phenomena as a system, to fully examine the combinatorial effects between conditional variables when exploring causal complexity, and to treat the combination of multiple conditional variables as concurrent causes constituting equivalent paths for the occurrence of outcomes[6].

3. Analytical framework and methodology

3.1 Framework of analysis

Since its introduction, the Institutional Analysis and Development (IAD) framework has been widely used in studies related to collective action on public pond resources[7]. The IAD framework contains a set of essentials that influence collective action (Fig. 1): (1) exogenous variables (natural geographical features, economic and social attributes, and generic institutional rules); (2) action arenas (action scenarios, actors); (3) patterns of interactions; (4) output outcomes; and (5) evaluation rules. The core of the IAD framework lies in how the interactions between natural geographical features, economic and social attributes, and generic institutional rules affect the cooperative behaviour of the actors, which leads to different outcomes. In turn, the collective action that emerges in the action arena affects resource outcomes. Institutions therein have been a key concern in influencing actor co-operation and output outcomes[8]. Thus, the IAD framework is well positioned to capture the interactions between external variables and actors' in complex scenarios, providing a consistent terminology for different research scenarios.

![Fig 1. Institutional Analysis and Development (IAD) Framework (Source: Ostrom E., 1990)](image-url)
In this paper, rural tourism is conceptualised as a cooperative system involving exogenous variables and actors, which has tourism revenue as an output outcome, and varies due to the effects of different compositional approaches between the various variables of natural geographical features, socio-economic attributes, generic institutional rules and actors. On this basis, it is possible to identify more clearly the different groupings that influence the performance of rural tourism governance in order to explore effective paths for developing high performance rural tourism in tourist villages under different conditions.

3.2 The fsQCA method

Qualitative Comparative Analysis (QCA), first proposed by Ragin in the 1980s[9], is a small-sample case study methodology for addressing "multifactorial concurrent causation". QCA views causal explanation as a configuration of factors rather than a path effect of independent variables. The strength of the QCA approach lies in its ability to compare cases between large-sample data fitting and multivariate studies to explore different combinations of variable conditions that produce equivalent effects, thus addressing the limitations of case studies or large-sample quantitative studies.

An appropriate number of small samples can clearly analyse the combination of different factor configurations, making fsQCA more appropriate in analysing the combination of conditions affecting the outcome variables, and more suitable for exploring the various paths of rural tourism governance performance[9]. For this reason, this paper chooses fsQCA as the main research method according to the needs of the research problem.

3.3 Case Sources

The cases in this paper come from the "Typical Cases of National Rural Tourism Development" published by the Department of Social Development of the National Development and Reform Commission and the Department of Resource Development of the Ministry of Culture and Tourism, and based on the completeness of the relevant variables, 15 of them from 13 provinces (autonomous regions), namely Guizhou, Yunnan, Jiangsu, Jiangxi, Ningxia, Shandong, Heilongjiang, Fujian, Shaanxi, Qinghai, Guangdong, Guanxi, and Liaoning, were finally selected to carry out rural tourism villages. Finally, the survey data were triangulated by combining China's tourism statistical yearbook and official website query to obtain the accurate data results used in the study of this paper.

3.4 Selection and calibration of variables

3.4.1 Natural geographic features

Natural geographic features mainly refer to the natural endowments and infrastructures that affect the development of rural tourism. The main components include whether the topography where the village is located is a plain, the accessibility to the tourism destination and the abundance of water resources. For this reason, this paper adopts a four-value scheme to calibrate the conditional variable of natural geographical characteristics[10], if the advantages of all three constituent factors exist, i.e., the village is located in the plains, the access to the village and the village have been completed hardening of the road, and the water resources are relatively abundant, the variable is calibrated as 1, 0.67 if two of them are satisfied, 0.33 if only one of them is satisfied, and 0 if all three of them are not satisfied, as shown in Table 2.

3.4.2 Economic and Social Attributes

Economic and social attributes for rural tourism destinations are mainly manifested in the social recognition of rural tourism destinations. For this reason, this paper takes whether the rural tourism destination is a model village or assessment level as a specific indicator of the village's economic and social attributes. The variable is calibrated to 1 if the rural tourism destination is a model village at the national level, 0.67 for model villages at the provincial (autonomous region) level, 0.33 for
model villages at the municipal and county level, and 0 for those who have not been awarded any model village title.

3.4.3 Generic institutional rules

From the point of view of Formal rules, rural tourism is a typical positive external behaviour, which can be achieved through Formal rules to internalise external effects to improve rural governance performance. From the point of view of the Informal rules, the Informal rules is the basis of the formal system, which originates from the daily interaction and production of rural residents, and influences the production behaviour of rural residents, which can be summarized as the three dimensions of value orientation, punishment and supervision, and transmission and internalization[11]. Based on this, this paper specifies the Informal rules as whether a professional economic co-operative is established in the village, whether a network community (QQ, WeChat, etc.) is set up and whether a villagers' supervisory committee is set up, and the variable of Informal rules is calibrated to be 1 if all three exist, 0.67 if two of them exist, 0.33 if only one of them exists, and 0 if all three do not exist, and the formal system is specified as whether a villagers' council has been established and is functioning well, whether a villagers' council has been established and is functioning well, and whether a villagers' supervisory committee has been set up. Whether or not a villagers' council is set up and functioning well, whether or not it implements one-issue-one-meeting, and whether or not the leader of the village committee serves as the core leader of the public service organisation, the formal system variable is calibrated to be 1 if all three conditions are met, 0.67 if two of them are met, 0.33 if only one of them is met, and 0 if none of the three conditions are met.

3.4.4 Actors

In the IAD framework and its theory, actors act as internal variables that interact with external variables in the action arena, which in turn result in different output outcomes for public pond resources. Given the definition of rural tourism as a public pond resource within the village, the actors can be specified as whether or not rural tourism is a business model dominated by village self-governing organisations and calibrated using a binary value scheme. The actor variable is calibrated to 1 if rural tourism is operated by intra-village organisations and 0 otherwise.

3.4.5 Rural tourism governance performance

The main purpose of developing rural tourism in villages is to increase the overall income of village residents, therefore, this paper uses the per capita income of rural tourism employees in tourism villages in 2019 to indicate the governance performance of rural tourism. A binary value scheme is used for calibration, which is calibrated to 1 if the per capita income of rural tourism employees in 2019 in the tourist destination is higher than the national level in 2019, and 0 otherwise.

4. Analysis of results

Through the multivariate combination analysis of the 15 rural tourism village cases, the Complex Solution, Intermediate Solution and Parsimonious Solution are obtained. In practice, the variables that co-occur in the combination of Parsimonious Solution and Intermediate Solution are generally regarded as the core conditions, while more researchers will choose the combination of Intermediate Solution for the analysis of sufficient conditions[12]. In this paper, the intermediate solution is also used to analyse the results, and the five conditional variables produce a total of 32 combinations of paths, and a total of three paths that satisfy the high performance of rural tourism governance. Among them, the symbol * indicates that the variable exists, which is equivalent to the "and" in the logical relationship, and the symbol ~ indicates that the variable does not exist, which is equivalent to the "not" in the logical relationship. The specific path combination results are shown in Table 1.
Table 1 Results of multivariate combinations

<table>
<thead>
<tr>
<th>No.</th>
<th>Pathway combination</th>
<th>Raw Coverage</th>
<th>Unique Coverage</th>
<th>Consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>~AC<em>ZS</em>FS*~JS</td>
<td>0.367</td>
<td>0.067</td>
<td>0.9175</td>
</tr>
<tr>
<td>2</td>
<td>~AC<em>ZS</em>FS*ZR</td>
<td>0.468</td>
<td>0.168</td>
<td>0.934132</td>
</tr>
<tr>
<td>3</td>
<td>AC<em>ZS</em>FS<em>JS</em>~ZR</td>
<td>0.133</td>
<td>0.133</td>
<td>0.801205</td>
</tr>
</tbody>
</table>

Solution Coverage: 0.668
Solution Consistency: 0.910082

Note: AC indicates that the main body of rural tourism operation is the villagers' self-organisation, ~AC indicates that it is the main body of operation that is not the villagers' self-organisation; ZS indicates that the formal system is functioning well; FS indicates that the Informal rules is functioning well; JS indicates that the conditions of economic and social attributes are better, and ~JS indicates that they are worse; ZR indicates that the Biophysical/Material Conditions are better, and ~ZR indicates that they are worse.

As can be seen in Table 3, The overall coverage of the three paths of sufficient conditions for high performance of rural tourism governance is 0.668, which indicates that 66.8% of all the factors influencing high performance of rural tourism governance are included in the above three combined paths. The overall consistency is 0.910082, indicating that the degree of explanation of the above three combined paths on rural tourism governance high performance is 91.0082. Overall, the above three paths can explain the combination of influencing factors of rural tourism governance high performance well.

Specific factor analyses of the path combinations show that both informal and formal rules exist in different combinations of factors. This is consistent with the conclusion in the governance theory of public pond resources that site-specific institutional design is the way to achieve sustainable use of public pond resources. Path 2, in which both co-occur and are formed in combination with superior natural physical conditions, exhibits the highest degree of original coverage and consistency. In the other pathway combinations, villagers' self-organisation, natural material conditions and economic and social attributes, all appeared in different situations. In the first path combination, i.e. villagers' self-organisation level is not high and economic and social attributes are not good, relying on effective informal and formal systems, it is still able to guarantee the high performance results of rural tourism industry; in the second path combination, although the natural material conditions of rural tourism are superior, i.e. the endowment of rural tourism is high, it is still in the conditions of effective operation of both informal and formal systems that the high performance results of rural tourism are achieved. In the third path combination, for villages with scarce natural resources but high levels of villagers' self-organisation and good economic and social attributes, both informal and Formal rules still belong to the necessary conditions. Combining the elements of the three paths shows that for villages with different natural resource endowments, villagers' organisations and economic and social attributes, institutions are all necessary conditions for rural tourism to achieve high-performance operations.

5. Conclusion and Discussion

First, the findings of this paper suggest that while the analyses of different univariate factors are able to draw conclusions about the impact of rural tourism performance, a combination of multivariate factors is still required for villages in different situations. Among them, a combination of effective informal and Formal rules is a non-negligible factor for the high performance operation of rural tourism. For villages in different contexts, the development of tourism must take into account the importance of institutions, which can have a significant impact on performance in different villages and at different stages of rural tourism development.

Secondly, the influencing factors of rural tourism high-performance operation conform to the characteristics of the combination of conditions, mainly manifested in three paths, and the overall
consistency of the three paths is higher than 0.8, which can fully reveal the combination of influencing factors of rural tourism high-performance operation, which is sufficient to illustrate the reasonableness of this paper's selection of variable conditions. Therefore, the high performance operation of rural tourism is not explained by a single influencing factor only, but there are different combinations of conditions that work together.

In summary, in the combination of paths affecting the development of rural tourism, the institution exists in every path, and it is the core of the influence on the development of rural tourism, fundamentally because the institution plays an important role in overcoming the tragedy of the commons in rural tourism. Hardin[13] argues that every user of the commons tends to overuse it for his or her own benefit, which results in the exhaustion of the resources, and that the freedom of the commons brings ruin to all". The main manifestation of this is that villagers as well as foreign tourism operators, in order to obtain high profits from rural tourism, often appear to receive tourists uncontrollably during the peak season at the expense of the ecological environment and disregard the ecological carrying capacity of rural tourism destinations. As a result, while the blind development of tourism practitioners attracts a large number of tourists, the uncontrolled entry and excessive demand for natural resources leads to irreversible damage to the ecological environment. However, the localised system design can effectively regulate the villagers and foreign tourism operators, effectively overcome the tragedy of the rural tourism commons, and enable the rural tourism sites to carry out all kinds of business activities in an orderly manner, thus improving the tourist experience in the rural tourism sites, and promoting the improvement of rural tourism performance.

Acknowledgments


References

