

Analysis of the Development Status and Construction Effectiveness of Rural Cultural Industry in Hangzhou

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Abstract: In the context of rural revitalization strategy, Hangzhou further promotes the empowerment of rural economic development by cultural industry. This paper takes several villages in Hangzhou as an example to investigate the development status of rural cultural industry, and draws relevant conclusions through descriptive statistical analysis. Subsequently, the construction effectiveness of the industry is studied, and a multi-valued Logistic regression model is used to establish a quantitative model of villagers' perceptions of the overall effectiveness of the rural cultural industries construction. When the age parameter is changed and the model is applied, it is obtained that the older the villagers are, the higher the recognition of the effectiveness of the rural cultural industries construction.

Keywords: Rural Cultural Industry; Descriptive Statistical Analysis; Multi-Valued Logistic Regression Model

1. Introduction

In recent years, in response to the call of national rural revitalization strategy, Hangzhou has given full play to cultural empowerment, promoted cultural industry talents, funds, projects and consumption to the countryside, and achieved remarkable development of rural cultural industry^[1]. In this paper, we take several villages in Hangzhou as the entry point to investigate the basic information of villagers and their views on the construction of cultural industry in their villages, in order to learn the development status and construction effectiveness of cultural industry in rural areas of Hangzhou, and to find out the implied problems and connections.

2. The Sampling Method

By consulting the Hangzhou Statistical Yearbook and other data, we learned the distribution of villages in each urban area of Hangzhou, and selected five urban areas, namely Xiaoshan District, Yuhang District, Fuyang District, Lin'an District and West Lake District, based on the total population of villages in each district using the judgmental sampling method. Subsequently, two representative villages in each urban area were further selected for sampling, and the sampling number of villagers in each village was determined according to the population ratio of the selected villages. Finally, 820 valid questionnaires were collected, and the reliability and validity of the questionnaires were analyzed with the help of software to ensure the quality of the sample.

3. Descriptive analysis of the development status of rural cultural industry

3.1 Knowledge of the connotation of "cultural industry"

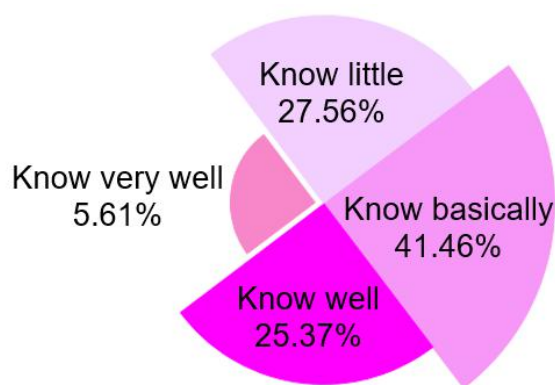


Figure1:villagers' knowledge of the connotation of "cultural industry"

Through the survey of 820 villagers, it was found that 72.44% of the villagers have some understanding of the connotation of "cultural industry", but through the interviews, it could be found that the villagers understand "cultural industry" in a contextual sense and generally think that the so-called "cultural industry" is an industry related to cultural activities. This shows that most villagers lack a deep understanding of the meaning of "cultural industry". Therefore, under the background of actively promoting the effective connection between poverty alleviation and rural revitalization, village cadres or relevant managers should vigorously promote the content of the rural revitalization strategy and popularize the connotation of "cultural industry" for villagers through publicity channels such as bulletin boards, cultural halls and cultural walls.

3.2 Understanding channels of "cultural industry"

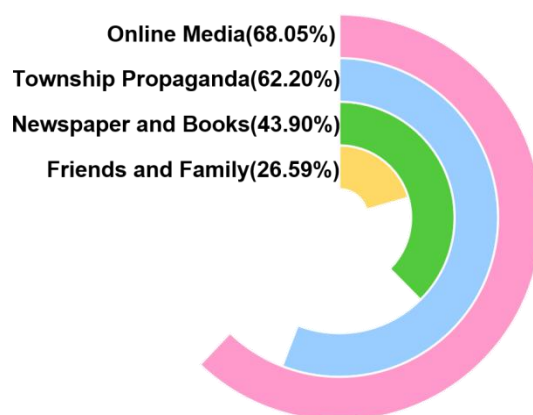


Figure 2 Villagers' channnels to learn about "cultural industries"

From the figure 2, it can be seen that villagers know about "cultural industry" through various channels, among which online media and township propaganda are the main channels. With the gradual entry of new governmental media into short videos, microblogs, WeChat and other publicity platforms, online media has played a significant role in popularizing the content of rural revitalization strategy, and has also brought the new industry of "cultural industry" into the public's view. In addition to online promotion, each township has also devoted itself to offline promotion, so that villagers can feel the changes and progress of the countryside. In order to truly implement rural revitalization, it is necessary to increase publicity and participation of all people. Therefore, villages should make good use of the efficient dissemination of information on the Internet and the close network of villagers in townships to increase villagers' awareness of new things such as "cultural industries".

3.3 Special cultural industries in the village

The domestic cultural industry is a new industry developed with the gradual improvement of the socialist market economy and the progress of modern production methods, which involves a wide range of fields. In this paper, we summarize four categories of cultural industries, namely "cultural performance", "fitness and leisure", "cultural tourism" and "folk customs"^[2], in light of the general situation of cultural industry development in villages today, which are described in the table 1 :

Table1:The Description of Cultural Industry Type

Rural Cultural Industry	Description
Cultural Performance	organizing various cultural activities such as cultural performances and acrobatic exhibitions.
Fitness and Leisure	organizing centralized exercise and entertainment for middle-aged and elderly people who love square dancing in villages, or organizing sports events such as basketball competitions.
Cultural Tourism	Villages carry out scenic spots, cultural halls or viewing activities of non-heritage culture according to local characteristics.
Folk Customs	Villages vigorously promote farming culture such as ceramics and bamboo, textile and embroidery, tea style and tea customs, or organize special activities such as local food festivals.

The survey found that "fitness and leisure" and "cultural tourism" are the two most widely developed cultural industries in Hangzhou, and some villagers even think that there are two or three areas in which the cultural industries in their villages are well developed, indicating that the current development of cultural industries in rural areas of Hangzhou is relatively good. At the same time, for each field of cultural industry, villagers also put forward areas worth improving. For example, in the field of fitness and leisure, with the rise of the national fitness boom, it has received widespread attention from villagers as the most widely developed cultural industry in Hangzhou villages, and more than half of the villagers hope that their villages can hold more club activities and provide some professional guidance in terms of fitness. It can be seen that villagers in Hangzhou attach great importance to the construction of various fields of cultural industry, and the suggestions and ideas of villagers can be widely collected to make up for the shortcomings according to local conditions, so as to add flowers to the construction of rural cultural industry.

4. Analysis of the effectiveness of the construction of rural cultural industry in Hangzhou

After analyzing the development status of rural cultural industry in Hangzhou, this paper further studies the construction effectiveness of rural cultural industry and examines the influencing factors of the perception of the construction effectiveness of cultural industry. Since it is the influence of multiple factors on a dependent variable, a multi-valued logistic regression model is needed to establish a quantitative model of the overall effectiveness of the rural cultural industry construction.

In this paper, villagers' perception of the overall effectiveness of the village cultural industry construction Y is defined as the dependent variable, and gender (X1), age (X2), education level (X3), occupation type (X4), length of residence in the village (X5), income level (X6), villagers' knowledge of village cultural industry (X7), villagers' concern about village cultural industry (X8), and the cultural industry's influence on villagers' life (X9) were defined as independent variables. Due to the large number of independent variables involved, this paper first conducted a column table and correlation analysis, and

selected the factors that were significantly correlated with the dependent variable as the independent variables of the regression model^[3].

By analyzing the correlations between individual influencing factors and the overall perception of effectiveness, it was found that seven factors: X2, X3, X4, X6, X7, X8, and X9, had significant effects on the overall perception of effectiveness of rural cultural industry construction, so these seven variables were selected as dependent variables to establish a multi-valued logistic regression model for effectiveness prediction. With the help of SPSS software for several iterations, the factors influencing the perception of the effectiveness of cultural industry construction were finally determined according to the AIC criterion^[4], and the results were obtained as Table2 and Table3:

Table2: Goodness of Fit

	chi-square	degree of freedom	significance
Pearson	231.32	201	0.148
deviation	273.45	201	0.537

Table3: Likelihood ratio test

Model	Model Fitting Conditions	likelihood ratio test		
	The -2 log likelihood of the simplified model	chi-square	degree of freedom	significance
intercept	380.349 ^a	73.835	3	0.000
age	318.631 ^b	12.177	3	0.007
Knowledge degree	337.552 ^b	31.038	3	0.000
Concern level	315.247 ^b	8.732	3	0.033

As can be seen from the table 2 and table 3, the p-values for the two criteria of Pearson and deviation are 0.148 and 0.537 (both greater than 0.05), respectively, which indicates that the model fits well. By the likelihood ratio test of the model, the p-values of these three independent variables are all less than 0.05, which indicates that all three independent variables are statistically significant. Therefore, we set:

$$A=e^{6.834 + 0.703X_2 - 0.671X_7 - 2.718X_8}$$

$$B=e^{7.068 + 0.469X_2 - 0.253X_7 - 2.094X_8}$$

$$C=e^{2.159 + 0.428X_2 + 0.519X_7 - 2.029X_8}$$

Then a multi-valued logistic regression model can be obtained:

$$p(y = 1) = \frac{A}{1 + B + C}$$

$$p(y = 2) = \frac{B}{1 + B + C}$$

$$p(y = 3) = \frac{C}{1 + B + C}$$

$$p(y = 4) = \frac{1}{1 + B + C}$$

4.1 Application of multi-valued logistic regression model

From the regression equation, it can be seen that villagers' views on the overall effectiveness of rural cultural industry construction are related to age, villagers' knowledge of rural cultural industry and villagers' concern about rural cultural industry. Based on the above model, we can specifically analyze the villagers' perceptions of the overall effectiveness of rural cultural industry construction.

In this paper, we set the parameters of the simulation object as a certain villager who knows more about the rural cultural

industry and is concerned about the development of the local rural cultural industry and understands its development status, and only change the age structure, and use this regression model to calculate the policy effectiveness under the corresponding parameters of the simulation object respectively, and conduct a comparative analysis to draw corresponding conclusions. The simulation process and the results are as follows.

(1) When the age of the simulated subjects is set below 22 years old, bringing into the equation to get table 4:

Table 4: Simulation results when the age of the subject is under 22 years old

Overall Effectiveness	The effectiveness is very good	The effectiveness is average	No effectiveness	The effectiveness is bad
Predicted Probability	18.09%	78.62%	2.73%	0.55%

(2) When the age of the simulated subjects is 23-40 years old, bringing into the equation to get table 5:

Table 5: Simulation results when the age of the subject is 23-40 years old

Overall Effectiveness	The effectiveness is very good	The effectiveness is average	No effectiveness	The effectiveness is bad
Predicted Probability	21.89%	75.27%	2.51%	0.33%

(3) When the age of the simulated subjects is 41-65 years old, bringing into the equation to get table 6:

Table 6: Simulation results when the age of the subject is 41-65 years old

Overall Effectiveness	The effectiveness is very good	The effectiveness is average	No effectiveness	The effectiveness is bad
Predicted Probability	26.21%	71.31%	2.28%	0.20%

(4) When the age of the simulated subjects is beyond 65 years old, bringing into the equation to get table 7:

Table 7: Simulation results when the age of the subject is beyond 65 years old

Overall Effectiveness	The effectiveness is very good	The effectiveness is average	No effectiveness	The effectiveness is bad
Predicted Probability	31.02%	66.81%	2.05%	0.12%

Comparing and analyzing the above four results, it can be found that as the age increases, the villagers' recognition of the effectiveness of rural cultural industry construction is on the rise. The reasons can be twofold: first, as villagers grow older, especially those who have reached retirement age, they will have more leisure time to participate in the activities held by local communities and village committees, and practically experience the impact brought by the construction of rural culture; second, under the implementation of the rural revitalization strategy, the living conditions of rural people in China have developed by leaps and bounds, and many older villagers will look back on their past living environment, many older villagers will cherish and satisfy the rural civilization and cultural style of the new countryside, and affirm the effectiveness of the construction of rural cultural industry. To sum up, the age structure of Hangzhou villagers can greatly influence their views on the overall effectiveness of rural cultural industry.

5. Summary of rural cultural industry research results

Through the analysis of the current situation of rural cultural industry construction in Hangzhou, we get that villagers in Hangzhou have a relatively shallow understanding of the connotation of rural cultural industry, and rural cultural industry usually comes into the villagers' view by means of online media and township publicity, and the two fields of fitness and

leisure and cultural tourism have a higher recognition. Logistic regression analysis shows that the main factors influencing the perception of the effectiveness of rural cultural industry construction are age, villagers' knowledge of rural cultural industry and villagers' concern about rural cultural industry. As the age increases, the villagers' recognition of the effectiveness of the construction of rural cultural industry tends to increase.

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