

Research on the consumption status of gourd handicrafts of national-level intangible cultural heritage

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Abstract: This paper combines qualitative analysis and quantitative analysis to study the handicraft consumption of gourd, an intangible cultural heritage in Shanxi Province. Firstly, through contingency analysis and comparative analysis, the cognition of consumers on gourd handicrafts and the sales prospect are mainly investigated. Secondly, factor analysis was adopted to comprehensively investigate residents' views on traditional handicrafts and calabash handicrafts, their current understanding of calabash culture, residents' purchase, preferences, and potential consumption market. Finally, conclusions are drawn on the public's cognition of gourd handicraft, the consumption status, and the potential market demand, etc. Moreover, then Suggestions are put forward for the enterprise's sales and handicraft inheritance from the perspective of production, marketing, and publicity.

1. Introduction

Calabash has a long history and culture in China. In 2014, craft calabash was rated as China's national intangible cultural heritage, which is one of the essences of Chinese traditional culture. Throughout today's handicraft market, the unique shape and individual significance of craft gourd are incomparable, and it is also an indispensable part of Chinese classical culture. The research innovations of this paper are as follows. Firstly, it effectively combines quantitative analysis with qualitative analysis to gain public praise, focus, and complaints and then puts forward useful Suggestions for enterprises. Secondly, "cloud electronic survey" is adopted to reduce the cost of survey, improve the effective recovery rate of the questionnaire, and improve the reliability of data. Finally, this paper has rich research perspectives, in-depth mining issues, and puts forward Suggestions.

2. Research

2.1 Investigation Purpose

Starting from residents' understanding of calabash culture and consumption of calabash handicrafts, this paper explores the current market situation and potential consumption market of calabash handicrafts, finds out the obstacles encountered in the inheritance of intangible cultural heritage, and helps enterprises find out the existing problems, so as to propose Suggestions for the sales of calabash handicrafts.

2.2 Calculation of sample size

With the confidence of 95% and the relative error of no more than 10%, the sample size was calculated as:

$$n_0 = \frac{1.96^2 \times 0.5 \times 0.5}{0.01} = 384$$

Estimated questionnaire recovery rate=90%, The total number of questionnaires to be issued is:

$n_1 = n_0 / \text{rate} = 384 / 0.9 = 427$. Finally, it was decided to issue 500 questionnaires, 467 of which were effectively recovered, with an active recovery rate of 93.4%.

2.3 Quality Control

The reliability analysis of consumer attitude and willingness showed that the Cronbach's alpha was 0.899 and 0.918, both larger than 0.8. According to the validity analysis of questionnaire data, KMO values were 0.898 and 0.855, respectively. Therefore, the reliability and validity of this questionnaire are good.

3. Gourd handicrafts sales status and development research

3.1 Comparative analysis of sales of gourd handicrafts and other traditional handicrafts

3.1.1 Comparison of purchase of gourd handicrafts and traditional folk handicrafts

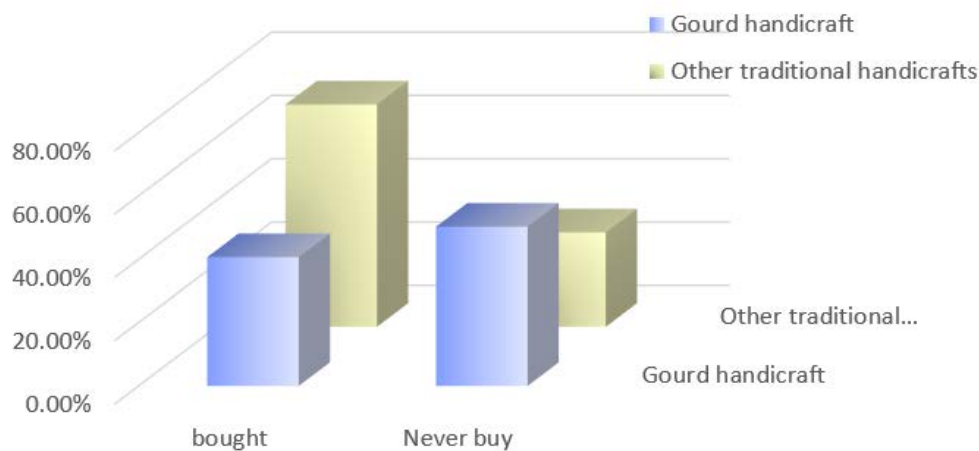


Fig.1 Comparison chart of purchase of gourd handicrafts and traditional folk handicrafts

Among all respondents, only 29.80% have not bought handicrafts, and most of them have bought handicrafts. Moreover, 40.69% of consumers have bought gourd handicrafts.

3.1.2 Comparative analysis of the price of purchased gourd handicrafts and others

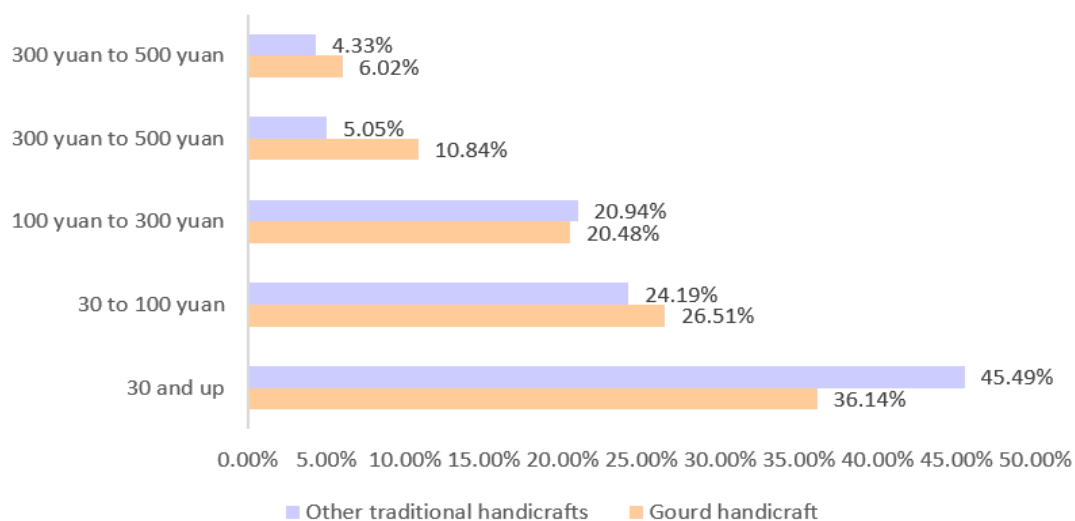


Fig.2 Price comparison chart of gourd handicrafts and folk traditional handicrafts purchased

It can be seen that no matter other folk traditional handicrafts or calabash handicrafts, 30 yuan to 100 yuan is the price range with the largest number of people among the handicrafts purchased by the public. The price range of 100 yuan to 300 yuan is similar to that of 30 yuan or less, and the price range of 500 yuan or more with the smallest number of people.

3.1.3 Comparative analysis of purchasing channels of gourd handicrafts and others

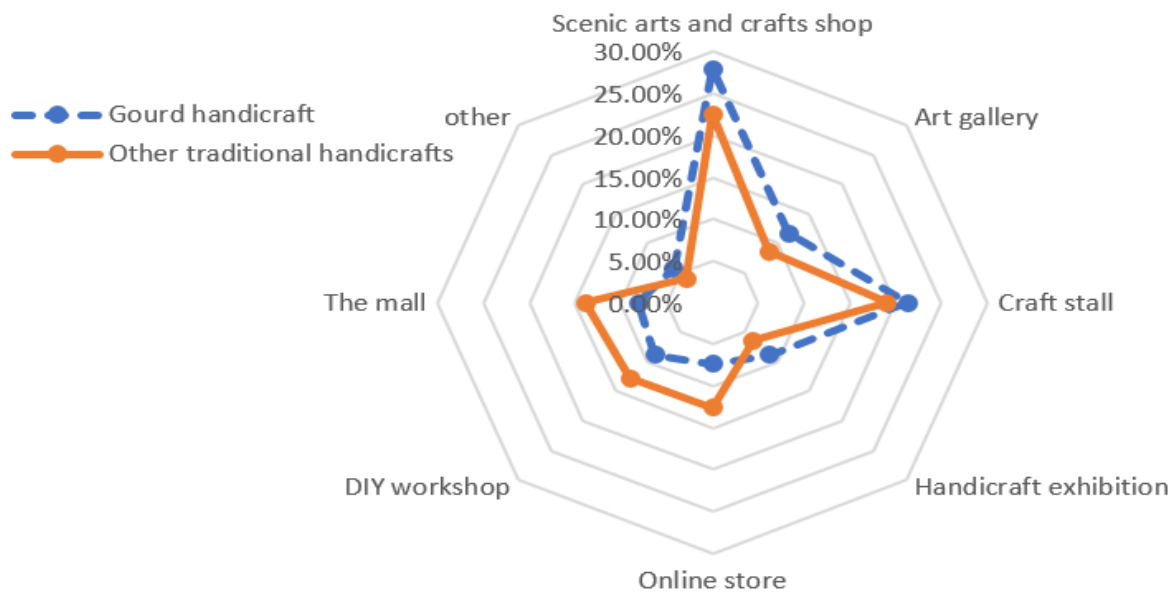


Fig.3 Comparison chart of channels for purchasing gourd handicrafts and others

It can be seen that the proportion of respondents who have purchased traditional handicrafts in DIY workshops, online stores, and shopping malls is higher than that of gourd handicrafts. Considerable is that the proportion of people who have bought gourd crafts in scenic spots, art galleries, crafts stalls, and crafts exhibitions is higher than that of traditional handicrafts.

3.2 Cross analysis of influencing factors of public buying behavior

3.2.1 Cross-analysis of gender, occupation and purchasing situation

Table 1 Chi-square test form

gender	value	degree of freedom	Progressive significance (bilateral)
male Pearson Chi-Square	2.674	4	.614
female Pearson Chi-Square	14.818	4	.005
total Pearson Chi-Square	8.138	4	.087

Among males, there was no significant correlation between occupation and purchasing situation. Among females, it was considered that whether they would purchase calabash handicrafts was highly correlated with the occupation at the significance level of 0.05.

3.2.2 Cross analysis of revenue and acceptable price range

Table 2 Chi-square test form

range	Pearson Chi-Square	degree of freedom	Progressive significance
10cm to 30cm	41.169	6	.000
30cm to 60cm	49.788	6	.000
60cm or more	29.168	6	.000

The lower the significance value, the less likely the two variables are to be independent. Therefore, in this case, we believe that the price range that residents can accept when buying gourd handicrafts is highly correlated with their average monthly income.

3.2.3 Monthly revenue and acceptable price range crossover analysis

Table 3 Chi-square test form

	value	degree of freedom	Progressive significance (bilateral)
Pearson Chi-Square	25.742	8	.001

As can be seen from the above table, the significance level is less than 0.05, so it is believed that the cross-analysis between the price range of gourd handicrafts purchased by the interviewees and the average monthly income

3.2.4 Crossover analysis of respondents' gender and their intention to purchase gourd handicrafts

Table 4 Chi-square test form

	value	degree of freedom	Progressive significance
Pearson Chi-Square	3.053	3	.005

Through analysis, the gender of the respondents is related to their willingness to buy gourd handicrafts in the future. Among the interviewee, only 2.8% of women are unwilling to buy gourd handicrafts in the future. Correspondingly, men are more reluctant to buy gourd handicrafts in the future than women.

4 Potential consumer and market sales prospects survey

4.1 Public opinion of gourd handicrafts based on factor analysis

A five-level scale was designed. At first, 11 variables were used for factor analysis. In order to ensure the feasibility of factor analysis, KMO test is carried out:

Table 5 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.898
Bartlett's Test of	Approx. Chi-square	3040.015
	Df.	55
	Sig.	.000

KMO value was 0.898, and Bartlett test showed that the factor analysis was effective. According to the results, 70.5% of information was extracted from the two factors, and the effect of factor analysis was satisfactory. The extracted component matrix is shown in the figure below, and the extracted two factors are summarized.

Table 6 The rotated component matrix

Items	Rotated Component Coefficients	
	Component1	Component2
X1 Gourd handicraft is a very exquisite handicraft	.854	.206
X2 Gourd handicraft is a worthwhile handicraft	.826	.159
X3 It performs well in hardness, color, and other aspects	.820	.232
X4 Gourd crafts can bring spiritual enjoyment	.817	.244
X7 Gourd handicrafts are intangible, but nothing special	.198	.878
X8 Gourd crafts are not too different from similar traditional crafts such as paper-cut	.225	.855
X9 Gourd crafts do not bring individual experiences	.215	.853

The above table shows partial results, according to the different evaluations of the interviewees, the respondents' love of gourd crafts is divided into two types: loyal fans (Y1) and plain non-feeling (Y2). Using the factor score matrix, the expressions of two factors are written respectively:

$$Y1 = 0.26X1 + 0.26X2 + 0.24X3 + 0.24X4 + 0.18X5 + 0.18X6 - 0.12X7 - 0.10X8 - 0.11X9 - 0.07X10 - 0.01X11$$

$$Y2 = -0.10X1 - 0.11X2 - 0.08X3 - 0.08X4 - 0.02X5 - 0.02X6 + 0.32X7 + 0.3X8 + 0.3X9 + 0.24X10 + 0.18X11$$

Based on the gender of respondents, the performance of different genders on different factors is

examined:

Table 7 A crosstab of gender across different factors

	Componet1	Componet2
A. male	-10.590	13.630
B. female	10.589	-13.627

4.2 Analysis of the public's consumption intention of craft gourd

The following scale measures respondents' feelings in the purchasing scene (mood at the time of purchase, etc.) and after purchase (whether to recommend to friends, etc.). A total of 7 5-level scale questions are set, and the KMO test results are as follows:

Table 8 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.855
Bartlett's Test of	Approx. Chi-square	2034.426
	Df.	21
	Sig.	.000

KMO value reached 0.855, and Bartlett spherical test was also very significant. For different variables, factor analysis extracts about 80% of the information for each variable, and the cumulative variance contribution ratio of the two extracted factors reaches 81%. Two extracted factors were summarized and named: high-desire group and low-desire group.

Table 9 The rotated component matrix

Items	Rotated Component Coefficients	
	Component1	Component2
P1 I appreciate its shape and its fineness	.885	.250
P2 Shopping for gourd crafts is fun	.859	.202
P3 Buying gourd crafts can make me happy	.856	.305
P4 Take initiative to display gourd crafts when guests come	.847	.231
P5 It is just a common handicraft, nothing special	.262	.876
P6 Its meaning is too common to appreciate	.285	.874
P7 I do not show gourd crafts to others	.201	.873

According to different respondents, their purchase desire is divided into high desire group (Q1) and low desire group (Q2). According to the factor score, the expression can be written:

$$Q1 = 0.33P2 + 0.3P3 + 0.33P1 + 0.31P4 - 0.1P6 - 0.11P5 - 0.14P7$$

$$Q2 = -0.11P2 - 0.06P3 - 0.09P1 - 0.1P4 + 0.4P6 + 0.41P5 + 0.43P7$$

Combined with different gender and age factors, the overall factor scores are as follows:

Table 10 Buying desire for different genders and ages

	Mean: Component 2 (*1000)
Under the age of 40,	13.603
male	18.333
female	8.220
40 to 60	-28.591
male	-96.183
female	25.207
More than 60 years of age	-164.516
male	418.570
female	-630.984

Therefore, the sales focus can be shifted to the middle-aged and young people.

5. Conclusions

5.1 Public understanding and demand for gourd handicrafts

When asked whether they would buy calabash handicrafts recommended by their friends, most people expressed their willingness to consider further, reflecting that the sale of calabash handicrafts has a good group effect. Consumers are interested in the production techniques of craft gourds, and the voice of offline DIY experience is relatively high. For calabash of different specifications, the acceptable price range is 100-300 yuan as the center.

5.2 Analysis of gourd handicraft sales market and present situation

Most people have bought traditional handicrafts, and the number of people who have bought gourd handicrafts accounts for nearly 30%. Therefore, the potential market for craft gourds is relatively broad. The analysis of purchase channels found that the market share of gourd handicrafts in DIY handicraft workshops, online shops, and shopping malls was not high.

5.3 Analysis of the potential market demand for gourd handicrafts

Women pay more attention to the ornamental value of craft gourds, while men pay more attention to the collection value. Men aged 40 and under and over 60 are more likely than women to report high levels of desire. Among 40 - to 60-year-olds, women are more likely to buy than men.

6. Suggestions

Firstly, in terms of production, it is suggested that enterprises use 3D modeling software to complete the design of new products, implement "regenerative" design of gourd handicrafts, and complete the innovation of gourd handicrafts. Secondly, the marketing aspect suggests that enterprises can open more stores with DIY experience activities and make them into salons to enhance the public's understanding of gourd handicrafts. In terms of market distribution, the public has a high degree of acceptability for products less than 300 yuan, and enterprises can choose to develop the market of small products. In terms of publicity, it is suggested that enterprises conduct innovative design through the Internet and new media at the present stage, so that people can feel the charm of intangible cultural heritage more vividly and vividly.

References

- [1] Hongbin Cong, Lixin Zhao, Jiushen Wang, Zonglu Yao. Analysis of the Current Situation and Development Demand of Energy Production And Consumption in Rural China [J]. Journal of Agricultural Engineering, 2017, vol. 33 (17): 224-231
- [2] Jiaxin Wang, Zonghong Zhou, Likang Li, Haiquan Wang, Ziguo Fu, Xiaofei Li. An R-type Factor Analysis and Probability Neural Network-Based Risk Rating Model for Ground Burst [J]. Vibration And Impact, 2019, vol. 38 (2): 192-203
- [3] Shimin Fang, Wenyan Chen. Analysis on the Inheritance and Tourism Development of Qiongju opera, Intangible Cultural Heritage [J]. Journal of Guangxi normal university (philosophy and social science edition), 2015, volume 36 (6): 1-6
- [4] Pang, Yiqiao. A love token lost and found: transformation of Xiuqiu, intangible cultural heritage of the Zhuang people in Jiuzhou, Guangxi Zhuang Autonomous Region, China [D]. The University of Hong Kong, 2016
- [5] Yi Liu, Jiawen Peng, and Zhihao Yu. 2018. Big Data Platform Architecture under the Background of Financial Technology: In the Insurance Industry as An Example. In Proceedings of the 2018 International Conference on Big Data Engineering and Technology (BDET 2018). ACM, New York, NY, USA, 31-35.
- [6] Qingfan Zhou. Current Situation of Energy Production and Consumption in China in 2015 [J]. Geology of Petroleum and Natural gas, 2016, (4): 454