

Analysis of consumer individual heterogeneity on the purchase of gourd handicrafts

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Abstract: This article focuses on whether consumers will buy gourd handicrafts and explore its influencing factors. Heterogeneity mainly includes consumer age, gender and so on. A research is being conducted on whether the consumer group of gourd handicrafts has purchased gourd handicrafts using a log-binomial model.

1. The development status of gourd handicraft enterprise is analyzed

Table1 SWOT Analysed

<p>Strength: Nowadays, people's living standard has been greatly improved, and people should pursue the improvement of spiritual life while satisfying the material life. Gourd handicrafts are complete in size and diverse in variety, which can well meet people's aesthetic needs. Calabash handicrafts have been listed in the intangible cultural heritage, highlighting the traditional Chinese culture. It has a good reputation in overseas and multinational companies, and has broad market prospect with domestic policies to protect intellectual property culture.</p>	<p>Weakness: The supply and demand in the market is not enough, and the price of crafts is gradually increasing, much higher than the price accepted by people. At present, only middle- and high-level income groups can afford it, and it is not popular. The shortcomings of gourd handicrafts make the commercial stage face the uncertainty of the economic environment. First, it is purely handmade and cannot be mass-produced; second, it takes a long time to produce and requires high technical level.</p>
<p>Opportunity: skill improved. Gourd handicrafts are introduced into mechanization, and the handicraft products produced are softer than pure handicrafts, visually more beautiful, and have produced new types of styles. The combination of gourd handicrafts and the new agricultural transformation reduces costs. It can be combined with modern features through design and commercial packaging to "walk into the homes of ordinary people".</p>	<p>Threats: There are more and more handicrafts and competition is increasing. There are more intangible cultural heritage handicraft companies and unaccounted folk craftsman studios in Taiyuan City alone.</p>

2. Model selection

This article focuses on whether consumers will buy gourd handicrafts and explore its influencing factors. The dependent variable is whether consumers will buy gourd handicrafts. It is a binary classification variable. The independent variable is consumer heterogeneity. The heterogeneity mainly includes consumer age, gender, occupation, monthly income, and education level. In the process of describing the statistics of whether or not the consumer group of gourd handicrafts has purchased gourd handicrafts, it has been found that the proportion of consumers buying gourd handicrafts is 61.11%, which is much greater than 15%. In the past, logit models have been used in such studies. However, theoretical studies have shown that when the actual consumer purchase probability is greater than 15%, using the logit regression model to estimate the RR value using the OR value has a large deviation, that is, the OR value This is a biased estimate of the RR value, so

the log-binomial model was chosen for this study.

3. Model building

Because the study dependent variable is a binomial variable, it obeys the binomial distribution, but because log-binomial fails to converge and abstract the results in the output of Stata, the binomial distribution is approximated when the sample size is large and the probability of the event is small. Obey the Poisson distribution, so modify the model without affecting the results, make y obey the Poisson distribution, and logarithmically transform to form the final log-binomial model. Let the dependent variable purchase gourd handicrafts y be 1 and not buy gourd handicrafts y as 0. Define the dummy variables as gender, age, monthly income, occupation x_4 , education level x_5 , and build the model as follows:

$$\ln[p(y = 1)] = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$

$$\ln[p(y = 0)] = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$

Restore it:

$$p(y = 1) = e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5}$$

$$p(y = 0) = e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5}$$

4. Conclusion analysis

Taking the consumer to buy gourd handicrafts as the dependent variable and age, gender, income, occupation, and education as independent variables, the analysis results of the Stata output model are summarized as follows:

Table 2 Model output

Independent variable	Coef.	P-value
Age		
<20		
[20,40]	-.012	.816
(40,60]	-.164	.017
>60	.047	.612
gender		
M		
F	.077	.039
Income		
<RMB3000		
[RMB3000,8000]	.032	.049
>RMB8000	.012	.045
education		
Junior high school and below (control group)		
High school / secondary school	-0.116	.140
College	-0.143	.065
Bachelor and above	-0.035	.603
job		
Self-employed (control group)		
student	0.275	.028
Freelance / unemployed	0.240	.073
Cadres / Administrators of Party and Government Organs	0.078	.637
Technician / worker	0.179	.178
Log pseudolikelihood	-270.12	

This result is explained as follows:

(1) As can be seen from the above table, a person's education level and the nature of work have little effect on whether to buy gourd handicrafts. Among them, only consumers with college diplomas, students and freelancers are more inclined to buy gourd handicrafts. It shows that the consumer occupation nature and diploma level of Gourd handicrafts are not much different.

(2) The 40- to 60-year-old group is more inclined to purchase gourd handicrafts. The analysis result is not significant. The consumer group of gourds and handicrafts is relatively small, and the 40- to 60-year-old group is buying more gourds.

(3) Compared with the male group, the female group's purchase probability is significantly increased.

5. Conclusion

(1) Consumer groups with a monthly income of more than 3,000 yuan have greater purchasing power, compared with groups with a monthly income of less than 3,000 yuan, the purchase probability is significantly increased, and among them, the increase of 3,000 to 8,000 yuan groups has a higher purchase probability than monthly income. Groups above 8,000 yuan are more likely to increase purchases.

(2) As far as the present is concerned, the production process and representative allegory of gourds are most widely spread. According to the allegorical meanings of gourds, it is found that the public accepts the most widely accepted meanings such as Fu Lu Shou, Multi-Children, Multi-Children and Jucai Nanqi. Therefore, it is recommended that enterprises make handicrafts based on the most widely accepted meanings of the public to increase the popularity of gourds among the public.

(3) According to the aesthetic characteristics of people of different genders and age groups, we can produce gourd handicrafts with different styles and different elements, and realize the diversified marketing development of craft gourds.

References

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