Analysis of Crafts Pricing Strategy

Xinyi Yuan

Social Science School, University of California, Irvine, Irvine 92617, US

xyuan4@uci.edu

Keywords: Crafts, Pricing strategy, Multiple linear regression model.

Abstract: This paper studied the crafts pricing strategy by the analysis of the commodity attributes of crafts based on the empirical analysis method of multiple linear regression model and the price of crafts sold publicly from 2011 to 2015 and related databases. The analysis of the crafts pricing strategy found that, unlike traditional commodities, the price of crafts was not significantly affected by its production costs. On the contrary, the price of crafts is mainly influenced by the number of crafts and its collection properties, and this conclusion is also supported by the results of micro-positive data.

1. Introduction

With the development of the economy and the society, the living standards and spiritual and cultural living standards of people have been gradually improved after the reform and opening up. People also demanded consumption for higher-level goods, including handicrafts besides the daily consumption of clothing, food, housing, and travel. Therefore, the analysis of the crafts and its pricing strategy has been the focus issue to which many scholars has pay attention. Different from the traditional products, the crafts itself both has two attributes of consumption and collection. It is also of great theoretical significance to study its pricing. This paper tries to analyze the value of the crafts as consumer goods and collectibles from the two aspects of utility theory and production theory. We could make the conclusions about the crafts pricing strategy which have the dual innovation of problems and methods based on the micro-positive analysis method.

2. Literature Review

The issue of the products pricing and the pricing strategy is a hot research issue that has attracted the attention of scholars. The research articles could be divided into two categories. One of the two is the article which starts with the external environmental problems and analyze the external factors that affect the pricing of goods, the other is to analyze the influence of the attributes of the goods themselves on the pricing of the goods themselves. Both types of articles have important reference and reference significance in the analysis of crafts pricing.

The first is the article about the impact of the product's own attributes on the pricing of goods. This type of article mainly includes the following articles: Chunfang Xu (2007) analyzed the influencing factors of network information commodity prices, the bundled pricing strategies and the multi-pricing strategy and the differential pricing strategy and provided the pricing flowchart solutions by using the online journals, books, advertisements and network services as examples in the article “The research on pricing strategy of network information goods” which laid the foundation for the pricing theory research of network information commodities. Wenbin Cao (2006) analyzed the pricing strategy of an enterprise publishing advertisements on multiple websites according to the times of exposures, and derived other commonly used two pricing strategies to establish a network optimization model in the article “The research on pricing strategy of enterprise network advertising”. Taking the original pricing model of the enterprise as an example, the author uses the function to derive the optimization model. The result helps the company to develop an appropriate advertising pricing strategy to avoid risks when choosing the form of advertising. However, the actual situation maybe different and will also have impact on the efficiency of the

  DOI: 10.25236/mse.2018.053

models. Hui Si (2006) analyzed general commodities and their pricing strategies in the new network environment in the article “The analysis of information commodity pricing strategies”. The author presents a schematic diagram of the formation of information commodity prices, and analyzes the penetration pricing strategy, differential pricing strategy and Ramsey pricing. It turns out that the price strategy has become an important competitive strategy. The Internet has promoted the development of information commodities. While the economies of scale have increased, the price discrimination is also more serious, which also poses new challenges for the pricing of information goods. Tao Liu (2006) analyzed the characteristics, advantages and best methods of Ramsey pricing mechanism in library information commodity pricing in his article "The preliminary study on Ramsey pricing mechanism of information commodities". Taking the daily business of the information organization as an example, the author tries to analyze by the Ramsey pricing mechanism and finds that pricing the information commodity itself and its additional services can solve the problem of capital shortage and resource allocation efficiency, which has the reference significance for the pricing of commodities in China's information market. Lin Zhang (2001) pointed out the existing problems of several types of technical commodity pricing models in his article "The preliminary Study on the Pricing Model of Technical Commodities", and then established the transferor and transferee pricing models respectively, using fuzzy comprehensive evaluation and Risk simulation is conducted. The author analyzes several existing pricing models, and then proposes two types of pricing models according to different technology transfer parties and transferees. These price models and negotiating strategies help both parties to determine the highest and lowest prices of technology, and the final technical price will fall on the overlap of the negotiations.

Secondly, Haoxiong Yang and other scholars studied the products pricing from the perspective of external environment which includes the market structure and currency strategy. This type of article mainly includes the following articles: Haoxiong Yang (2017), the online dual-channel supply chain pricing model under hybrid decision-making is constructed to achieve the balance of interests of different online channels and maximize the overall benefits of the channel in his article “The research on online dual channel pricing strategy under mixed decision”. And analyzed the impact of service satisfaction and the hidden cost of the selection channel on the total revenue of manufacturers, retailers and channels. The author show the market structure of online channels and the relationship between β and p^* and p^* in online dual channels and try to use the utility function model and the income function model for analysis and solution. It is found that when consumers are satisfied with online direct channel service and online retail channel service, the optimal pricing of manufacturers under mixed decision-making conditions will increase, and the optimal pricing of online retailers will not be affected. Online retailer revenue, manufacturing Business income and total supply chain revenue will change. Yiliang Xing (2013) analyzed the multiple aspects which can help the RMB’s internationalization strategy in his article "The RMB Internationalization Strategy under the Commodity Pricing Power". The author draws on and summarizes the cases in which the United States and Japan achieve internationalization through the pricing power of commodities. The author analyzes the internationalization of the RMB, and believes that the internationalization of the RMB should draw on Japan's relevant strategies, such as international cooperation and the introduction of technical funds. Zesheng Sun (2008) analyzed the influence of trade media on the relationship between “oligarch” market structure and trade commodity pricing in his article “Oligarch Market Structure, Trade Media and Pricing of Trade Commodities”. Based on the import and export price data of British and American cotton from 1797-1896, the author uses the three-point method and the OLS model for analysis. It is found that The differences between the government and private protection policies affecting the trade media market in the United States and the United States have led to differences in pricing power between the two sides, while the lack of pricing power in China's trade commodities is due to the weakness of the domestic micro-market structure leading to weakness in the trade media market. The choice of independent variables is the main problem of this paper. The choice of independent variables is the main problem of this paper.

3. Methodology and Data

This paper uses the multiple linear regression analysis models which is commonly used in econometric analysis to analyze the problem of crafts pricing. Therefore, the variable is set to the price of the craft. The selection of independent variables is the main problem of this paper. In the choice of independent variables and the choice of factors affecting the price of crafts, the first problem to be solved is the classification of handicrafts. The prices of different types of handicrafts are affected by different factors. According to the classification method of the China Academy of Art, this paper divides the crafts into wood, teeth, bamboo, carbon, jade carving, glass, color carving, resin, wenwan, ceramics and paper-cut. According to the characteristics of different types of handicrafts, this paper summarizes the internal factors affecting the price of handicrafts. According to the relevant knowledge of utility theory and cost price theory in economics, this paper thought that the following factors will mainly affect the pricing of crafts. The first is the cost price of the crafts which refers to the visible costs, including the materials and labor for making crafts. The second is the rarity of crafts. Here the article uses the number of the same crafts as the indicator. The third factor affecting the price of crafts is the collection value of handicrafts. This article uses the expected selling price of crafts to represent the collection value of crafts. The other factors which affect the price of the crafts also include: the number of turnovers, the number of exhibits, and the frequency of exposure. In this paper, we put these factors into the residual term, and get the model (1), as is shown below:

$$y_i = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \mathbf{u} \quad (1)$$

The data this paper used comes from the data of the research conducted by the China Academy of Art and the China Product Information Network. The data tracked the transaction prices and other information of traditional crafts such as wood, teeth, bamboo, carbon, jade carving, colored glass, color carving, resin, wenwan and ceramics. The sources of the data can be divided into two categories: the first is the handicrafts that are publicly sold in the market, and the second is the handicrafts that are sold through auctions.

The time span of data research is 5 years, from 2011 to the end of 2015. According to this time span, 31 samples of each type of crafts were selected for follow-up investigation, and we obtained and recorded information about at least two transactions. From the variables contained in the data, there are both production information of crafts and trading information of crafts. The production information of crafts includes: production cost, manufacturer and production time of crafts. And the trading information of crafts includes: trading time, trading location and transaction price of crafts. The data set contains variables that better meet the research needs of this article on the pricing of crafts. At the same time, because the data comes from the follow-up investigation initiated by the China Academy of Art, the authority of the data is guaranteed to a certain extent.

4. Results

Based on the multivariate linear analysis model, this paper uses Stata analysis software to analyze the data of crafts transaction prices and related information. The regression results are shown in the following table:

As what is shown in the above table, the first column represents the regression result of the price of crafts on the cost of crafts. The regression coefficient is -29.28, which is very significant. This is totally contrast to the traditional cost price theory, which the higher crafts costs reduce the price of crafts. But we should pay attention that the cost of crafts in this article refers to the visible cost of crafts, and does not include factors such as intellectual property rights in crafts costs. In order to further analyze the factors affecting the price of crafts, this paper adds the influencing factors of the number of similar crafts in the regression of the second column. From the regression results, after adding the affecting factors -the number of similar handicrafts, the impact of the cost of crafts decreased, and the impact coefficient was only -4.87, and the significant indicators have also declined. The influence coefficient of the number of similar crafts on the price of crafts is -87.54,

and it is very significant, which means the number of crafts has a greater impact on the price of crafts than the visible cost of crafts. In the third column of regression results, this article further adds to the impact of the expected price of crafts on the transaction price of crafts. In the third column of regression results, the impact coefficient of crafts cost is -6.99, the influence coefficient of crafts quantity is -55.5, and the influence coefficient of the expected price of crafts is 0.19. Different from the previous two influencing factors, the expected price of crafts has a significant positive impact on the transaction price of crafts. From the R-square of the three-column results, as the number of independent variables increases, the R-square shows an upward trend. The R-square of the third column of regression results is close to 70%, indicating that the existing independent variables are strongly explained by the dependent variables, and the rationality of the model is also verified.

Table1 Results of OLS

VARIABLES	(1) price	(2) price	(3) price
cost	-29.28***	-4.871*	-6.686***
	(1.927)	(2.765)	(2.443)
number		-87.54***	-55.50***
		(7.995)	(7.809)
value			0.186***
			(0.0196)
Constant	62,881***	66,979***	48,595***
	(3,278)	(2,810)	(3,144)
Observations	310	310	310
R-squared	0.428	0.589	0.682

Note: Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

According to the regression coefficient results of the model, combined with the existing literature, this paper believes that the most important factor affecting the price of crafts is the number of the same kind of crafts. The specific reasons are as follows: Firstly, from the regression coefficient point of view, in the case of adding other control variables, the number of crafts of the same kind has the greatest influence on the transaction price of crafts. Specifically, the rarer the number of crafts, the higher the transaction price. Secondly, From the perspective of utility theory, the influencing factors of handicraft transaction prices are consistent with the theory of marginal utility pricing. The less the number of crafts, the more difficult it is to obtain an extra unit of crafts. The higher the utility of getting one unit of crafts to the individual, the higher the transaction price of the crafts. Finally, compared with other factors affecting the price of crafts, the number of crafts also has a dominant position in the price of crafts. The visible cost of crafts has little effect on the price of crafts, which indicates that fluctuations in craft prices mainly depend on invisible costs such as intellectual property. The expected price of crafts has a positive impact on the transaction price of crafts, but from the perspective of the regression results, the purpose of the buyer in the crafts transaction is not investment, but other uses such as collection.

5. Conclusions and Future Research

According to the analysis results of the multiple linear regression model above, this paper believes that the pricing of handicrafts will be affected by three aspects: production cost, own utility and collection value. First of all, from the perspective of production cost, this paper believes that the visible cost of crafts has a negative impact on its pricing. Therefore, when considering the issue of crafts pricing, we should focus on its invisible costs, namely intellectual property rights. Secondly, from the perspective of utility, the pricing of crafts is inversely related to its quantity. The less the number of crafts, the higher the marginal utility that people bring, and the higher price of the crafts. Finally, from the perspective of collection value, crafts have certain investment property attributes,

but the investment property attributes have little effect on the price of crafts. Therefore, when the crafts are priced, more consideration can be given to the value of crafts as a collectible.

At the same time, it should be noted that the definition of handicrafts in real life is broad and contains many types. The data that can be traced in this paper has only more than 300 samples, and the time span is only 5 years. The sample may be slightly insufficient for the overall representativeness. On the basis of obtaining updated data, this paper will continue to study the issue of crafts pricing to obtain more realistic analysis results.

References

[1] Haoxiong Yang, Fei Huang. Research on online dual channel pricing strategy under mixed decision. Business Economics Research. 2017(19)

[2] Yiliang Xing. RMB Internationalization Strategy under Commodity Pricing Rights. Industry and Technology Forum. 2013(10)

[3] Zesheng Sun, Yuhua Song. “Oligarchic” market structure, trade media and trade commodity pricing: analytical framework and case studies based on cotton trade history. Finance and Trade Research. 2008(5)

[4] Chunfang Xu, Jipeng Jing. Research on Pricing Strategy of Network Information Commodities. Modern Intelligence. 2007(4)

[5] Tao Liu, Jing Xu. A preliminary study on the Ramsey pricing mechanism of information commodities. Theory and exploration. 2006(5)

[6] Hui Si, Wei Xu. The analysis of the nformation commodity pricing strategy. National book intelligence knowledge. 2006(5)

[7] Wenbin Cao. Research on Pricing Strategy of Enterprise Network Advertising. China Management Science. 2006(2)

[8] Lin Zhang. A preliminary study on the pricing model of technical commodities. Journal of Henan Normal University (Natural Science Edition). 2001(4)