

An Empirical Study on the Impact of Agricultural Products Regional Brands on Consumer Behavior

Chunying Wang^{1,a}

School of Economics and Management for Jilin Agricultural Science and Technology University Jilin
132101

a1503214642@qq.com

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Abstract: Taking Xinjiang Hetian jujube as the research object, under the condition of single clue and multi-clue, the behavioral preference of consumers' regional brand agricultural products was measured through questionnaire interviews. In the single clue condition, the existence of the agricultural product regional brand effect on the consumer's purchasing behavior was verified. Under the multi-cue condition, it was confirmed that the agricultural product regional brand had an influence on the consumer purchasing behavior, which was second only to the product safety attribute and product sense.

1.Introduction

In recent years, there have been many researches on regional brands of agricultural products. These academic studies focus on the regional brand connotation, characteristics, formation mechanism, compositional dimensions, and competitiveness of agricultural products and their impact on consumer behavior. Compared with agricultural products brands, there are more factors correlated to regional brands of agricultural products. In terms of the practice of maintaining and enhancing the brand image and brand effect of agricultural products, although there is no universal operation plan, it has basically formed a regional brand marketing and creation model of agricultural products led by enterprises or governments. These models mainly analyze the practical activities of regional brands of agricultural products from the perspective of business entities. This paper will explore the value pattern and implementation mechanism of agricultural product regional brands from the consumer perspective. As the regional brand of agricultural products is only recognized and accepted by consumers, it can ultimately produce market value. In the research process, it is necessary to determine a question, that is, whether the agricultural product regional brand will have an impact on its behavior during the consumer purchase process, and if there is an impact, compared with other influencing factors, how the specific degree of influence is.

2. Research review

A regional brand of agricultural products that appears as "region name + category name" can help the agricultural product to present better flavor, taste, aroma and other quality characteristics (Thode and Maskulka, 1998), such as Florida orange juice, California raisins, Belgian chocolate, Dutch tulips. Roxanne Clemens (2004) and others used New Zealand beef as an example. Through research, they found that the name of a country can help consumers effectively distinguish other meat products. Angela Tregue et.al. (1997) interviewed 58 British consumers and learned from interviews that consumers understand regional agricultural products, including two aspects, on the one hand, product authenticity factors, including personal factors, situational factors and product related Characteristics to further judge the authenticity of regional agricultural products. On the other hand, traditional/heritage factors such as natural conditions (climate, geography), socio-cultural factors (regional economic level, raw material collection, cooking techniques, etc. Michael Winter (2003) interviewed 736 residents in five regions of the UK and Wales and found that nearly half of the residents regularly purchase local produce, which they believe is fresher and

more transparent in the growing/feeding process. Roininen Arvola (2006) interviewed 55 consumers in Finland using word association and ladder theory interview techniques and found that most consumers use food quality, local characteristics, short transport distance and fresher to explain why they choose local featured agricultural products.

In order to further verify that the regional brand of agricultural products has an impact on consumer purchasing behavior, this paper will use the joint analysis method to verify the existence and influence of the regional brand of agricultural products on the purchasing behavior of consumers in a single clue and multi-cue situation.

3. Research design

3.1 Under the condition of single clue, the impact of the regional brand of agricultural products on the purchasing behavior of consumers is verified.

In order to test whether the regional products of agricultural products have an impact on consumers' purchasing behavior, this study designed a consumer behavior experiment based on the joint analysis method. Through the questionnaire to test the consumer purchasing behavior considerations of Xinjiang Hetian jujube agricultural products with certain popularity, in the experiment, "regional brand – Xinjiang Hetian jujube" and "product sensory" were taken as test purchase considerations. The regional brand factor takes two levels, namely "yes and no"; the "product sensory" factor takes three levels, which are "normal, preferably and good". The price of each combination of jujubes is the same, in order to exclude the price interference with consumers about regional brands and product senses. Considering the better explanation of the questionnaire during the questionnaire issuance process, it is easy to carry the agricultural product samples, so Xinjiang Hetian jujube was selected as the test product. The sensory of the jujube product was measured by the three levels of "normal, preferably and good". The experimental design is shown in Table 3-1 below.

Table 3-1 6 combination identification of each jujube product

Agricultural product combination	Regional brand	Product sense
Jujube 1	Yes	Normal
Jujube 2	Yes	Preferably
Jujube 3	Yes	Good
Jujube 4	No	Normal
Jujube 5	No	Preferably
Jujube 6	No	Good

Note: In Table 3-1, the prices of jujube 1 to jujube 6 are the same, and the unit price is 20 yuan per Jin.

3.2 Under the multi-cue condition, the regional brand of agricultural products has a measure of the degree of influence on consumer purchasing behavior.

In order to measure the impact of regional branding on consumer purchasing behavior, through in-depth interviews with 20 consumers, it was determined that the description of jujube under multi-cue conditions includes sensory attributes, price attributes, regional characteristic product characteristics and safety attributes. According to the expert's suggestion, it is determined that the four attributes of jujube products are divided into three levels according to the fruit diameter, pesticide residue and market price, respectively, and the production area is divided into two levels: the product is Xinjiang Hetian Jujube or not. Consumers' choice of four attributes and attribute levels can reflect differences in consumer preferences, but the final virtual product is $3 \times 3 \times 3 \times 2 = 54$. If the respondent chooses 54 products, Increasing the burden on respondents is not conducive to data collection. In order to simplify the product mix while ensuring the accuracy of the experiment, the orthogonal design of the simulated product was carried out in the SPSS using the orthogonal

experimental design module in the SPSS, and the representative 9 product profiles were further selected (see Table 3-2). On this basis, the Likert 7-dimensional scale is used to measure consumers' real choices based on their questionnaire descriptions and their own preferences.

Table 3-2 Analog product outline design

Agricultural products	Product sense	Security attribute	Price attribute	Is the product Hetian Jujube or not
Jujube 1	Better	Low	High	Yes
Jujube 2	Ordinary	Medium	High	No
Jujube 3	Good	Medium	Medium	Yes
Jujube 4	Ordinary	Low	Medium	Yes
Jujube 5	Good	Low	Higher	No
Jujube 6	Ordinary	High	Higher	Yes
Jujube 7	Better	Medium	Higher	Yes
Jujube 8	Good	High	High	Yes
Jujube 9	Better	High	Medium	No

4. Data collection and analysis

4.1 data collection

The research process is mainly divided into two stages: pre-investigation and formal investigation. In order to ensure the accuracy of the questionnaire and to understand the degree of understanding of the questionnaire, the pre-investigation was conducted before the formal investigation. In late September 2018, 30 respondents were interviewed by upward and offline methods. It was learned that the content expressed in the questionnaire needs to be more colloquial. Therefore, the questionnaire was revised and tested, and the results were revised. The post-questionnaire is easier to understand. On October 3, 2018, the formal investigation process was entered. In the process, 220 questionnaires were distributed through the questionnaire website and the paper-based questionnaire. A total of 212 questionnaires were collected, the recovery rate was 96.36%, and 6 invalid questionnaires were excluded. The survey collected a total of 206 valid questionnaires, and the effective questionnaire rate was 93.63%.

4.2 Sample data description analysis

The questionnaire design of this study is divided into three parts: basic information of respondents, purchase preference measurement under single clue conditions and purchase preference measurement under multi-cue conditions. In the basic information section of the respondents, among the 206 respondents, the respondents aged 26-46 accounted for 47.57% of the total, and the respondents aged 46-65 accounted for 31.55%, accounting for 75.12% of the total number of respondents. The proportion of men and women in this part of the interview is about 3:5. In this survey, the demographic characteristics of the age and gender in this part respondents are basically consistent with the situation that Chinese middle-aged women are the main food force. The basic statistical information is shown in Table 4-1.

Table 4-1 Basic statistical characteristics of the survey sample

Index	Classification indicator	Number of samples	Proportion (%)
Age	25 years old and below	17	8.25
	26-45 years old	98	47.57
	46-65 years old	65	31.55
	65 years old or older	26	12.62
Gender	Male	81	39.32
	Female	125	60.68
Education	High school and below	74	35.92
	College and undergraduate	116	56.31
	Graduate student or above	16	7.76

4.3 Data result analysis

4.3.1 Analysis of consumer behavior by regional brand image of agricultural products under the condition of single clue

Under the condition of single clue, combined with the second part of the questionnaire filled by the respondents, the joint analysis was carried out. Respondents scored the preference of the six combinations of jujube products, and obtained the respondents' opinion on whether it is the external sensory importance value of Xinjiang Hetian jujube and the product, the utility value of each attribute level, and the correlation test value. As can be seen from Table 4-2, the regional brand of agricultural products, that is, the importance value of the products for Xinjiang Hetian jujube is 73.65%, and the importance value of product sense is 26.35%, indicating that among the 206 respondents, the respondents are prefer to regional characteristics of agricultural products. The utility value is 0.69 on whether it is a regional characteristic agricultural product namely Xinjiang Hetian jujube, which indicates that consumers have an influence on the purchase behavior of consumers in a single-cue situation.

Table 4-2 Utility scores of the attribute level of jujube and the relative importance of attributes

Attributes	Level	Utility score	Relative importance %
Product sense	Ordinary	0.43	26.35
	Better	0.86	
	Good	1.29	
Regional brand	Yes	0.69	73.65
	Not	-0.69	

Note: Constant = 2.500, Pearson's $R = 1.000$, Significant Sig.= 0.000; Kendall's tau = 1.000, Significant (Sig. = 0.021)

4.3.2 Analysis of consumer behavior by regional brand image of agricultural products under multi-cue situation

The third part of this research questionnaire is to determine whether the regional brand of agricultural products has an impact on consumers under multi-cue conditions. If there is an impact, how to measure the specific effects. Through the joint analysis method, the author analyzes the relative importance of the utility scores and attributes of the various attribute levels of jujube in the case of multiple clues, and analyzes the consumer's sensory, safety attributes, price attributes and whether it is the degree of preference for regional branded products. Table 4-3 is the statistical value of the survey data obtained through the joint analysis operation of the SPSS software, including the attribute importance value, the utility value of the attribute level, and the correlation coefficient between the measured data and the actual data. From the results of the data analysis, it is known that Pearson's R value is 1, and the predicted evaluation value of the test is positively correlated with the actual evaluation value, and the significance level of the two-tailed test is 0.000. Kendall's tau value is .986, and the predicted evaluation value of the test is positively correlated with the actual evaluation value. The significance level of the two-tailed test is 0.000. It can be seen from the above data that the joint analysis model used in the study has a high degree of fit and precision, which can more accurately reflect the factors influencing the purchase behavior of the respondents in the study when purchasing the jujube products. In addition, from the relative importance of the property, when investigating the jujube products, the first thing to focus on is the safety attribute, the relative importance of which is 32.65%. In addition, the respondents also paid more attention to the product senses and the size, color and size of the jujube products, the importance value is 27.89%, slightly lower than the safety attribute; the price of the date product has less influence on the purchase intention of the respondent, and its importance value is 18.78%; The importance value of investigators on whether to pay attention to regional special products is 20.68%. Through interviews, it can be further analyzed that regional characteristic agricultural

products represent the quality of products. In addition, in the joint analysis, different levels of utility scores in the same attribute are different, and the utility level of the attribute level is larger, indicating that the consumer prefers the attribute level. Table 4-3 shows that consumers prefer a higher level of safety, a better sense of jujube and a combination of Xinjiang Hetian jujube, and the impact of price attributes on consumer utility is relatively insignificant.

Table 4-3 Multi-cue joint analysis output result sorting table

Attributes	Level	Utility value	Importance
Product sense	Ordinary	0.56	27.89%
	Better	1.12	
	Good	1.68	
Security attribute	High	4.35	32.65%
	In	3.41	
	Low	1.75	
Price attribute	Medium	-1.34	18.78%
	Higher	-2.64	
	High	-3.37	
Regional brand products	Yes	0.96	20.68%
	Not	-0.96	
(constant)		3.221	
Pearson's R		1.000	
Pearson's R's Significance		0.000	
Kendall's tau		0.986	
Kendall's tau's Significance		0.000	

5 Conclusion and enlightenment

5.1 Conclusion

This study takes the well-known agricultural product regional brand Xinjiang Hetian jujube as the research object. From the perspective of consumers, using the origin brand theory, empirical research is carried out through experimental design and statistical analysis methods, and the impact of regional brand-to-consumer purchase behavior of agricultural products is discussed, and the following conclusions can be draw:

Conclusion 1: In the single clue condition, the existence of the effect of regional brand image of agricultural products on consumer purchasing behavior is determined;

Conclusion 2: Under the multi-cue condition, it is confirmed that the regional brand of agricultural products has an impact on consumer purchasing behavior, which is second only to product safety attributes and product senses.

5.2 Enlightenment

This study explores whether regional branding of agricultural products has an impact on consumer purchasing behavior under a single clue and multi-cue conditions, as well as the degree of specific impact. At the same time, the regional brand of agricultural products is determined through a combination of qualitative and quantitative surveys. The importance of the consumer's mind and the specific representation, the meaning of the symbol. Through the in-depth interviews conducted in the later interviews, it was found that the regional brand of agricultural products means the quality of the products purchased by consumers. The resource environment and market performance of agricultural products will affect consumers' perceived quality and perceived value of agricultural products, which will directly affect their willingness to purchase. In addition, the overall impression of regional brands of agricultural products also has a greater impact on the product image of agricultural products and the willingness of consumers to purchase. Therefore, in the process of creating, maintaining and upgrading the regional brand image of agricultural products, local governments should pay attention to the promotion of regional resources, environment, production capacity and product quality, and enhance consumers' trust in regional branded agricultural products.

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