Research on Tea Branding Based on the Consumer Perspective—Taking Liubao Tea as an Example

Jiusen Luo[1,#], Yulan Deng[2,#], Xiaoru Tang[3,#], Fei Lei[2,*]

[1]School of Business, Wuzhou University, Wuzhou, 543000, China
[2]School of Management, Wuzhou University, Wuzhou, 543000, China
[3]Law School, Wuzhou University, Wuzhou, 543000, China
[#]These authors contributed equally.
[*]Corresponding author

Abstract: This paper is based on the consumer perspective, on the basis of field research and questionnaire survey to obtain first-hand data, first of all, the use of hierarchical analysis, logistic regression analysis and other data analysis methods to study the current constraints on further brand building of Liubao tea. And based on the above-mentioned influencing factors, the corresponding solution strategies are proposed. The study concluded that marketing transformation, cultural heritage, network publicity and villagers' participation have greater constraints on further brand building; it was found that the taste and stale flavor of Liubao tea are the main factors causing poor consumer reviews of Liubao tea.

Keywords: Liubao tea; brand building; development countermeasures

1. Introduction

Since the Twelfth organization Congress of Guangxi Zhuang Autonomous Region put forward "industry is the basis for strengthening Gui, the people's wealth. To deepen the structural reform on the supply side, adhere to the traditional industries, strengthen the leading industries, do play the new industries, do solid characteristics of the industry" [1] Since then, Liubao tea as a characteristic advantageous product in Guangxi, with the rise of black tea fever, more and more popular with consumers. In 2022, the public brand value of Liubao tea reached a record high of 3.764 billion yuan, and was named "2022 China's tea most brand value communication brand". [2] With the improvement of the level of social and economic development, people's demand for healthy consumption has been increasing. [3] As a healthy beverage with a long history in China, tea is increasingly loved by people. Based on this, how to better build a tea brand and accelerate China's transition from a large tea country to a strong tea brand has become a topic of increasing importance in the academic world. However, the current share of Liubao tea in the national tea market is less than one percent, compared with Pu'er tea and Anhua black tea industry, Liubao tea is far inferior to these two in terms of tea garden area, brand value and market share. How to increase the share of Liubao tea in the national tea market and catch up with the output value of Pu'er tea and Anhua black tea industry will become one of the key aspects of Liubao tea brand building in the next step. Therefore, this paper is based on the perspective of consumers, through the use of field research, questionnaire surveys and other research methods to obtain first-hand information and data, comprehensive use of hierarchical analysis, logistic regression analysis and other data analysis methods, trying to explore the factors that limit the further brand building of Liubao tea, to enrich the theory of brand building of Liubao tea, to provide some theoretical value for the strengthening of Guangxi's special industries and promote rural revitalization.

2. Data and Research Methodology

2.1 Data sources

A total of 550 questionnaires were distributed, excluding 13 that did not meet the required data analysis requirements, with 537 valid questionnaires and a return rate of 97.63%. The overall distribution: 66.29% female, 33.71% male, 79.14% in the age group 18-25 and 87.71% consumers.

2.2 Hierarchical analysis method

A hierarchical analysis model containing 14 indicators was constructed based on the data from the questionnaire survey and reference to relevant literature, and relevant experts were invited to assign scores as shown in Table 1.

Table 1: Expert assignment table

	Government planning	Government support	Growing environment	Picking and processing	Tea flavour	Product packaging	Creative products	Internet publicity	Benefits Efficacy	Cultural heritage	Financial attributes	Marketing methods	Marketing transformation	Villager participation
Government planning	1	1	0.33	0.33	1.25	0.5	1.43	0.34	0.34	0.2	1.11	0.34	0.2	0.34
Government support	1	1	0.2	0.33	0.5	0.33	1.25	0.25	0.34	0.2	1.11	0.34	0.2	0.34
Growing environment	3	5	1	1.25	1.67	1.25	1.67	0.34	1	0.34	1.25	0.34	0.2	0.25
Picking and processing	3	3	0.8	1	0.33	1.43	1.25	0.34	0.2	0.2	0.34	0.5	0.2	1.11
Tea flavour	0.8	2	0.6	3	1	1.25	1.43	0.34	0.34	0.2	1.25	0.34	0.17	1.25
Product packaging	2	3	0.8	0.7	0.8	1	1	0.34	0.34	0.25	1	0.34	0.25	0.34
Creative products	0.7	0.8	0.6	0.8	0.7	1	1	0.2	0.2	0.2	0.34	0.34	0.25	0.34
Internet publicity	3	4	3	3	3	3	5	1	1.25	1	1.25	1	0.34	1
Benefits Efficacy	3	3	1	5	3	3	5	0.8	1	0.34	1.25	0.34	0.34	1
Cultural heritage	5	5	3	5	5	4	5	1	3	1	1.25	1	0.34	1
Financial attributes	0.9	0.9	0.8	3	0.8	1	3	0.8	0.8	0.8	1	0.34	0.2	0.34
Marketing methods	3	3	3	2	3	3	3	1	3	1	3	1	0.34	0.34
Marketing transformation	5	5	5	5	6	4	4	3	3	3	5	3	1	1
Villager participation	3	3	4	0.9	0.8	3	3	1	1	1	3	3	1	1

Meanwhile, the numerical values of the scores are described in Table 2.

Table 2: Description of figures table

Scale	Meaning
1	Equally important
3	Slightly important
5	Significantly important
7	Strongly important
9	Extremely important
2,4,6,8	Median of the above two adjacent judgements
Countdown	The judgement of i and j is a_{ij}, and the judgement of i and j is $a_{ij} = \frac{1}{a_{ij}}$

2.3 Logistic regression model

2.3.1 Setting of the model

According to the results of the above hierarchical analysis method, 14 indicators such as marketing transformation, cultural heritage and network publicity were taken as independent variables, and a binary logistic regression model was used to study the influence of 14 indicators on the brand building and marketing of Liubao tea. The basic form of the binary logistic model is as follows.

$$P = (Y = 1/X_1, X_2, ..., X_n) = \frac{e^{\beta_0 + \beta_1 X_1 + ... + \beta_n X_n}}{1 + e^{\beta_0 + \beta_1 X_1 + ... + \beta_n X_n}} \tag{1}$$

The result of the logarithmic transformation is as follows.

$$\ln\left(\frac{P}{1-P}\right) = \beta_0 + \sum_{i=1}^{n} \beta_i X_i \tag{2}$$

In the above equation, P represents whether the brand building and marketing of Liubao tea is influenced, Y=1 means that there is an influence on the brand building and marketing of Liubao tea, Y=0

means that there is no influence on the brand building and marketing of Liubao tea. x represents the factors influencing the brand building and marketing of Liubao tea. $\beta 0$ denotes a constant, and βi denotes the regression coefficient.

2.3.2 Variable setting

(1) Selection of dependent variable

The purpose of this paper is to examine the factors influencing brand building and marketing of Liubao tea. Based on the above, whether brand building and marketing is influenced as the dependent variable Y, so that when Y=0 means no influence on brand building and marketing, and Y=1 means an influence on brand building and marketing.

(2) Selection of independent variables

Based on the existing empirical research, combined with the results of the hierarchical analysis model, the 14 indicators of marketing transformation, cultural heritage, network publicity, villagers' participation, marketing methods, benefits and efficacy, cultivation environment, financial attributes, tea taste, harvesting and processing, product packaging government unified planning, cultural and creative products, and government support were used as independent variables.

2.3.3 IF-IDF algorithm

The IF-IDF algorithm is a weighting technique often used in information search and text mining, which evaluates the importance of a word to one of the documents in a collection of documents, a corpus. When the number of occurrences of a word in a document increases positively and its frequency in a corpus decreases inversely, the word is of high importance.

(1) IF indicates word frequency

The word frequency (IF) indicates how often a keyword appears in the document. To prevent this number from being skewed towards longer documents it is usually normalised (typically word frequency divided by the total number of words in the article). The exact formula is shown in (3).

$$tf_{ij} = \frac{n_{i,j}}{\sum_k n_{k,j}} \tag{3}$$

Where $n_{i,j}$ indicates the number of times the word appears in the file and $\sum_k n_{k,j}$ indicates the sum of all occurrences of the word in the file.

(2) IDF indicates Inverse Document Frequency

Inverse Document Frequency (IDF): The IDF for a particular term can be obtained by dividing the total number of documents by the number of documents containing the term and taking the logarithm of the resulting quotient. The specific formula is shown in (4).

$$idf_i = \log \frac{|D|}{|\{j : t_i \in d_j\}|} \tag{4}$$

Where $|D|$ indicates the total number of documents in the corpus and $|\{j : t_i \in d_j\}|$ indicates the number of documents in the corpus containing the word, but if the word is not in the corpus, the denominator is zero, so to avoid this in general $1 + |\{j : t_i \in d_j\}|$ is used.

(3) TF-IDF is actually expressed as: TF * IDF

The above expository analysis leads to the formula for calculating the TF-IDF: the specific formula is shown in (5).

$$TF - IDF = \frac{\sum_{N}\left(\frac{n_{i,j}}{\sum_{k} n_{k,j}} \times \log\frac{|D|}{|\{d:d \in t_i\}|}\right)}{N} \tag{5}$$

3. Empirical Results and Analysis

3.1 Results of the hierarchical analysis

On the basis of Table 3, the consistency test was first carried out through the SPSSPRO data analysis website.

Table 3: Consistency test results table

Maximum characteristic root	CI value	RI value	CR value	Consistency test results
15.4453	0.1112	1.57	0.0708	Passing the test

The calculation results showed that the maximum characteristic root was 15.4453, and the corresponding RI value was 1.57 according to the RI table, so CR=CI/RI=0.0708<0.1, which passed the one-off test. The foundation was laid for the calculation of the hierarchical analysis method. The data was then processed using SPSSPRO using the hierarchical analysis method on this basis. The final calculation results are shown in Table 4.

Table 4: Results of the hierarchical analysis table

Content	Feature vector	Weight value	Maximum feature root	CI value
Marketing Transformation	3.3693	0.197		
Cultural heritage	2.1559	0.126		
Network promotion	1.7502	0.1023		
villager engagement	1.727	0.101		
marketing approach	1.6826	0.0984		
Benefits and efficacy	1.3612	0.0796		
Growing environment	0.8736	0.0511	15.4453	0.1112
Financial Properties	0.8108	0.0474		
Tea Flavours	0.7193	0.042		
Picking and Processing	0.6441	0.0377		
Product packaging	0.6432	0.0376		
Government planning	0.4959	0.029		
Cultural and Creative Products	0.4499	0.0263		
Government support	0.4222	0.0247		

From Table 4, the four indicators of marketing transformation, cultural heritage, internet publicity and villagers' participation ranked in the top four, playing a key role in the brand building and marketing planning of Liubao tea at present. According to the results of the questionnaire survey, 64.62% of the respondents believed that the current marketing methods of Liubao tea lacked characteristics, and the marketing methods tended to be homogeneous and traditional. This verifies that the conclusion of the proportion of marketing transformation indicators in the above is of a certain scientific and accurate nature. In the context of Internet+, the marketing methods of commodities are slowly shifting from diversified to homogeneous, and people have become "marketing aesthetic fatigue", so it is necessary to create marketing methods with characteristics to attract people's attention and make them willing to spend time to learn about Liubao tea, in order to further increase consumer recognition and promote the brand building of Liubao tea and the process of marketing transformation.

3.2 Logistic regression model analysis results

In order to make the results of the logistic regression model more scientific, the model was first estimated using SPSS 26.0, followed by the regression analysis, and the final results are shown in Table 5.

The model (dependent variable Y: brand building and marketing) was calculated as follows: -2 log-likelihood value of 52.323 and the p- value of the chi-square test was 0.001, which indicates that the model is valid. According to the results of the binary regression model, it can be obtained that marketing transformation, cultural heritage, network publicity and villagers' participation have a significant

influence on the brand building and marketing of Liubao tea, with the influence coefficients of 2.218, 1.873, 1.249 and 0.968 respectively. the influence coefficient of marketing transformation is 2.218, which is significantly correlated at the 0.01 level, which indicates that Liubao tea has been developing for a long time on the The coefficient of influence for marketing transformation was 2.218, which was significant at the 0.01 level, indicating that Liubao tea has entered a new stage of development over a long period of time. Under the current stage, marketing transformation has a significant impact on the further brand building and marketing of Liubao tea, and promoting the marketing transformation of Liubao tea has an important role in the brand building and marketing of Liubao tea in the context of Internet+. The influence coefficient of cultural heritage is 1.873, which is significantly positively correlated at the 0.05 level, indicating that deeply exploring the cultural resources of Liubao tea and promoting the history and culture of Liubao tea have an important role in the brand building and marketing of Liubao tea. The coefficient of the influence factor of internet publicity is 1.249, which is significantly positive at 0.05 level, indicating that under the background of Internet+ and rapid development of internet technology, Liubao tea should increase internet publicity, so that more people know and understand this tea, which has a significant role in promoting the brand building and marketing of Liubao tea. The coefficient of the influencing factor of villagers' participation is 0.968, with a significant positive correlation at the 0.05 level. The active participation of villagers in the brand building and marketing activities of Liubao tea helps to raise the brand awareness of villagers and consciously control the quality of tea, thus effectively promoting the brand building and marketing of Liubao tea.

Table 5: Logistic regression model results

Variables	Beta	Sig
Marketing Transformation	2.218***	0
Cultural heritage	1.873**	0.04
Network promotion	1.249**	0.06
villager engagement	0.968*	0.09
marketing approach	0.483	0.189
Benefits and efficacy	0.867	0.904
Growing environment	0.645	0.625
Financial attributes	0.046	0.543
Tea Flavour	0.367	0.647
Picking and processing	1.018	1.027
Product packaging	0.548	0.625
Government planning	1.025	0.649
Cultural and Creative Products	0.027	0.638
Government support	0.657	0.432

Note: * indicates P-value < 0.1; ** indicates P-value < 0.05; *** indicates P-value < 0.01.

The results of the logistic regression model are generally consistent with the results of the hierarchical analysis model, with the top 4 rankings continuing to be marketing transformation, cultural heritage, network publicity and villagers' participation. Marketing transformation has the highest influence weight, followed by cultural heritage, network publicity and villagers' participation. The impact coefficients of these four influencing factors are 2.218, 1.873, 1.249 and 0.968 respectively. All four influencing factors are significantly positively correlated within the 0.05 level, with a high level of significance, and the remaining influencing factors, although not at a high level of significance, also have positive influencing factors.

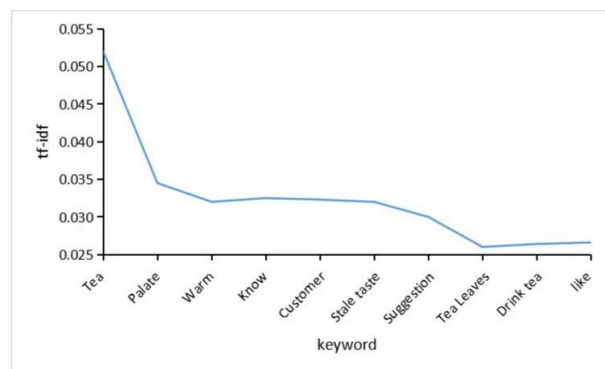## 4. Results of the IF-IDF algorithm results analysis

Figure 1: Results of the IF-IDF algorithm's analysis of the text of poorly reviewed reviews

In addition to the offline questionnaires distributed for data analysis, Jingdong was also selected as the source of data, the sample was selected from the Liubao tea selling area and 2,000 text reviews were randomly selected from different flagship shops of Liubao tea products in order to find out the shortcomings in the online sales of Liubao tea.

In order to further find the reasons for the poor consumer reviews, the TF-IDF algorithm, which can be used to extract keywords, summaries and core concerns from the review text content, is simple, fast, universal and easy to extend to various text-based analysis scenarios. The greater the weight of the keywords, the more they can influence the consumer's evaluation of Liubao tea. The results are shown in Figure 1.

5. Suggestions for countermeasures

5.1 Development of a brand image IP for Liubao tea

Cause a good brand image IP can also bring considerable economic benefits while demonstrating the cultural value of the brand, and improve consumers' perception and recognition of the brand value. [4] Therefore, in the process of promoting the branding of Liubao tea, the development of the brand image IP of Liubao tea can be taken as an important direction of construction. With the help of short video platforms, authoritative media reports and other means to disseminate the image IP of Liubao tea, create hot topics, reach the pain points of consumers' needs and arouse their emotional resonance, so that the image IP of Liubao tea can not only convey the brand value of Liubao tea, but also meet the current needs of consumers for spiritual consumption. [5] On this basis, we can accelerate the layout of the industrial chain of Liubao tea brand image IP, including peripheral products, animation, comics, games, film and television and other full industry chain profit model. Extend the industrial chain of Liubao tea and increase the added value of the product.

5.2 Paying attention to cross-border marketing

Cross-border marketing is a marketing effect that many brands choose to use nowadays, with high conversion rates and novelty, which is easy to generate consumer discussion. [6] The "one bite to repel mosquitoes, two bites to the soul" cocktail flavoured with Rooibos, lip balm and hand cream flavoured with Tabasco, etc. are all successful cross-border marketing cases. Through the popularity of the network to enhance the exposure of the brand, expand new consumer groups, to promote the effective extension of the brand, but also to release the accumulated cultural heritage of the brand. In this regard, it is suggested that Liubao tea can strengthen the cross-border marketing with snail noodles, tortoise jelly and paper-wrapped chicken, based on the current consumer trends, from the planning, theme, content and other aspects of innovation, to reach the pain points of consumers, to achieve the optimization of cross-border marketing, to break the original brand perception of consumers of Liubao tea, and then achieve the "powder", expand new consumer The goal is to capture new consumers' market share. In order to achieve sustainable development, China has put forward the goal of "carbon neutrality", as mankind has been promoting economic development at the expense of the ecological environment in the modern development process. In the context of universal participation, people are beginning to pay more and more attention to green consumption, and the concept of green marketing is thus born. Green marketing is one of the effective ways to build a green brand image [7] Green marketing is an effective way to build a green brand image. The beautiful environment in which the tea is grown and the fertiliser used is mainly farmyard manure and organic fertiliser, which has limited negative impact on the environment and is a green product, while the materials used for the packaging of the tea products are recyclable and meet the low-carbon standard, which is in line with consumers' demand for green consumption. For this reason, short videos and authoritative media reports can be used to strengthen the publicity in this area and establish the green brand image of Liubao tea.

5.3 Change the style of live banding

Some scholars have shown that three factors information experience, interactive experience and entertainment experience have an important impact on consumers' live streaming experience. [8] A good live streaming experience not only increases consumers' willingness to buy products, but also spreads brand value and improves consumers' brand awareness. Some scholars have also shown that anchor characteristics are one of the factors that influence consumers' willingness to purchase products. As the main source of information in a live broadcast, the anchor can have an important impact on consumers'

perceived pleasure and perceived arousal. In summary, it is suggested that the live broadcast of Liubao tea be transferred to the Liubao tea mountains, Liubao tea processing workshops and Liubao tea handcrafting workshops, and invite Liubao tea non-genetic inheritors, national tea masters and Liubao tea enterprise leaders as anchors to talk about the history and culture of Liubao tea, production techniques and so on, and also conduct prize quizzes based on this to strengthen the interaction with consumers and improve their experience. With the continuous improvement of China's consumption environment and the rising income level, China has gradually entered the stage of consumption upgrading, which is reflected in the fact that the decisive factors for consumers to choose products have gradually changed to product quality, design concept and consumption experience, and from pleasing people to pleasing oneself. [9] Based on this, it is recommended that Liubao tea create a "high quality + spiritual resonance + personalised" product. At present, Liubao tea already has the characteristics of high quality, spiritual resonance and personalisation can start from the product packaging, integrating the current design elements to meet the current consumer's spiritual needs, and then cause the emotional resonance of consumers, in order to further expand the consumer base to lay the foundation.

6. Research conclusions

Based on the perspective of consumers, through empirical research, it is found that: firstly, the current marketing method of Liubao tea is still at the stage of imitation and learning, and has not yet formed a unique marketing method, and the marketing ability among similar black tea still needs to be improved; secondly, Liubao tea has not yet given full play to the role of cultural heritage in the brand building. Thirdly, the network publicity of Liubao tea has yet to be improved, and the content of the relevant short videos is homogenised and the exposure is not high, so the network publicity effect of short videos cannot be well played. Fourthly, the enthusiasm of villagers to participate in the brand building of Liubao tea still needs to be improved, and they are not yet truly aware of the role of strengthening the brand building of Liubao tea for the Liubao tea industry and the role of improving their own income.

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