

Lidu Liquor Enterprise Competitiveness Analysis with AHP

Li Wei

Department of international economics and trade, Jiangxi Agricultural University, Nanchang, China

**Corresponding Author:* Li Wei, Department of international economics and trade, Jiangxi Agricultural University, Nanchang, China. Email: lw000728@163.com

ABSTRACT

As one of the Chinese luxury consumption, top-grade liquor is widely focused social issue. Research in white spirit competitiveness is the key to study liquor enterprise, especially in the whole environment, the demand and support of white spirit is decreasing and unbalanced. So, it is essential to solve the urgent problem. Lidu liquor enterprise, as one of famous brand, with more than 200-year history and its wines are full reputation in the world, so Lidu liquor enterprise can be an important representative of enterprise competition research. Article use AHP with Lidu liquor enterprise's situation, datum and experts' estimation for calculating its four representative wines and analyze the result. Finally, the article come to a conclusion that Lidu liquor enterprise's competitiveness is corporate culture, profitability, market performance. Besides, AHP is helpful to evaluate Lidu Liquor Company and put forward improving policies.

Keywords: Competitiveness, Liquor, Lidu liquor enterprise, AHP

INTRODUCTION

As one of the world's six distilled spirits, liquor is one of the Chinese particular representatives, which come from Yuan dynasty. There is written about how to make spirits in our history and pass down so far, so it has formed deep-influence culture. Liquor occupies Chinese market through its long history and unique technology. With the rapid development of economy, Chinese liquor industry grow quickly, and its relative industry also have improved which bring employment promotion and be helpful for the statue of China. Thus, research in the development of liquor industry contributes to country's progress. However, since 2012, Chinese liquor industry gets into dilemma because of public policy, leading to supply-demand imbalance. Then, how to keep competitiveness of liquor enterprise under the trend is meaningful. Many studies have launched analyses concerning liquor's situation before. Long Zhi, Huang Pin, Zeng Shaolun "Economic integration, information's transmission become faster and faster, the demand of consumers becomes more and more complex, and PLC (product life cycle) reduces unceasingly. Whether enterprise is competitive is vital for the enterprise", which emphasize the meaning of enterprise's competitiveness [1]. Yang Liu "Abundant historic culture inheritance,

consumption habits and national features is liquor's advantage, but the lack of culture guide, economies of scale and market order is its weakness", which point out the situation of liquor enterprise aiming to make full use of advantages and make up disadvantages [2].

Jiangxi province is full of water, so there is lots of outstanding liquor enterprise, liquor enterprise is going down, and many liquor enterprises are impacted. Lidu liquor enterprise, as one of the fourth Jiangxi liquor, is the focused point in the research of the regional economic development. Nowadays, Lidu liquor enterprise have bigger and bigger reputation, besides, its liquor is widely praised by international experts with the same award as Chinese Mao-tai. So it is meaningful to research how to keep Lidu liquor enterprise's competitiveness. This article hopes to find key point to solve problems with AHP in order to find measures to keep Lidu liquor's competitiveness.

ESTABLISHMENT OF EVALUATION INDEX SYSTEM ABOUT LIQUOR ENTERPRISE'S COMPETITIVENESS

The Proposed Evaluation Index System

As one of the Chinese luxury consumption, top-grade liquor is widely focused social issue. Research in white spirit competitiveness is the key to study liquor enterprise, so how to

estimate liquor enterprise’s competitiveness is a focused problem in China. Many scholars have used different skills and directions to research liquor enterprise’s competitiveness. Fang Meiyuan “With SWOT’s analysis, under SWOT’s basis, Sichuan province should come up with measures which can improve Sichuan province liquor enterprise’s competitiveness and then government will change policy to improve liquor industry there [3]”. Ming Qian ,Feng Zhijun “According to collect relative datum, we can build the improved TOPSIS(Technique for order Preference by Similarity to ideal solution)evaluation index system, based on PSO(Particle Swarm Optimization)to estimate and compare liquor enterprise’s key competitiveness in Heilongjiang province. Only improving competitiveness continuously can liquor industry develop fluently? [4]”. He Lei “Using Neural Network Tool box, I establish evaluation system of liquor brand’s competitiveness and test model. As a result, Neural Network Toolbox is useful and vital to estimate liquor enterprise’s brand competitiveness. In the end, it’s important to develop marketing ability, brand located ability, make reasonable brand strategy and cultural differentiation strategy [5]”. But, it is far from enough. These researches are still limited and imperfect. After collecting, neatening and summarizing others researches. The article aims at the feature of liquor enterprise and globe economy to establish evaluation index system of liquor enterprise. In order to estimate liquor’ s competitiveness roundly, AHP is used for enterprise’ s assessment. The article hopes can deepen the research, enrich research in evaluation system and expend the boundary.

The Establishment of Evaluation Index System

Liquor enterprise’s competitiveness will be influenced by many factors, thus it is different for different scholars in different time and place to build the evaluation index. According to existing relative theory and literatures and Guo Tingting’s evaluation index [6], establish this system.

Besides, financial ability is a new first class index because steady financial ability can give enterprise stranger and longer life. And, enterprise’s financial ability is a accuracy and

objective index which can show current enterprise’s situation. Managerial skills and profitability are both essential index. Based on AHP’s principle of accuracy and fairness, financial ability is reasonable and vital as a first class index.

Totally, the index system includes 5 first class index,10 second class index and 21 third class index .The 5 first class index is technological innovative ability(A), marketing ability(A2), brand competitiveness (A3), financial ability (A4), human resources ability (A5) ; 10 second class index is liquor technical development capability (B1), technical integration competence (B2), market achievements (B3), business development (B4), consumer brand trust (B5), enterprise culture (B6), profitability (B7), managerial skills (B8), employee quality (B9), incentive mechanism (B10) ; 21 third class index is advancement (C1), number of patents (C2), flavour design (C3), blending technology (C4), market share (C5), market penetration (C6), investment proportion (C7), employee proportion (C8), channel rationality (C9), brand promise (C10), consistency between consumer and brand (C11), degree of system perfection (C12),employee recognition (C13),revenue growth rate(C14), gross profit rate(C15), financial turnover (C16), education level of employee (C17), training frequency (C18), senior employee proportion (C19), employee stability (C20), average prohibit (C21).

EVALUATION INDEX SYSTEM OF THE LIQUOR ENTERPRISE’S COMPETITIVENESS BASED ON AHP

AHP (The Analytic Hierarchy Process)

AHP is made by American operational researcher Santy in 1970s.It mainly cuts index into three parts, analyses these parts and finally estimate the weight.

Build System and Estimate the Weight

Construct Judgment Matrices

Separate the problem into three parts, general objective, Sub-goal, criterion layer, set weight, calculate judgment matrix and find the final weight. For accuracy reflation, the rule is as following, A nine-grade scale can be adopted for a comparison with pairs (table number 1).

Table1. Index definition

Explanatory notes Numerical	evaluation
Variants are equivalent	1
A decision-maker varies between the equivalence and the small advantage of the first compared objects over the other one	2

Lidu Liquor Enterprise Competitiveness Analysis with AHP

Slight advantage of object one over object two	3
A decision-maker varies between the slight advantage and large advantage of the first variant over the second one	4
Large advantage of the first variant over the second one	5
A decision-maker varies between large advantage and significantly larger advantage of the first variant over the second one	6
Significantly larger advantage of object one over object two	7
A decision-maker varies between the significantly larger advantage and a huge advantage of the first compared variant over	8
Huge advantage of object one more object two	9

Test and Rank

Whether make sure the rank or not, the datum must be tested. Usually, CI is used to judge its correctness. A maxis the weight, which will influence error in judgment:

Table1. Liquor enterprise's competitiveness weight

First Class Index A	Second Class Index B	Third Class Index C	Weight
Technological Innovative Ability₁ (0.105)	Liquor Technical Development Capability B ₁ (0.143)	Advancement C ₁ (0.107)	0.011
		Number of Patents C ₂ (0.036)	0.004
	Technical Integration Competence B ₂ (0.857)	Flavor Design C ₃ (0.714)	0.075
		Blending Technology C ₄ (0.143)	0.015
Marketing Ability₂ (0.294)	Market Achievements B ₃ (0.512)	Market Share C ₅ (0.339)	0.100
		Market Penetration C ₆ (0.173)	0.051
	Business Development B ₄ (0.488)	Employee Proportion C ₈ (0.057)	0.017
		Channel Rationality C ₉ (0.156)	0.046
Brand Competitiveness₃ (0.348)	Consumer Brand Trust ₅ (0.336)	Brand Promise C ₁₀ (0.084)	0.029
		Consistency Between Consumer and Brand C ₁₁ (0.252)	0.088
	Enterprise Culture ₆ (0.664)	Degree Of System Perfection C ₁₂ (0.511)	0.178
		Employee Recognition C ₁₃ (0.093)	0.032
Financial Ability₄ (0.206)	Profitability ₇ (0.800)	Revenue Growth Rate C ₁₄ (0.600)	0.124
		Gross Profit Rate C ₁₅ (0.400)	0.082
	Managerial Skills B ₈ (0.200)	Financial Turnover C ₁₆ (0.200)	0.041
Human Resources Ability₅ (0.047)	Employee Quality B ₉ (0.167)	Education Level Of Employee C ₁₇ (0.074)	0.003
		Training Frequency C ₁₈ (0.065)	0.003
		Senior Employee Proportion C ₁₉ (0.028)	0.001
	Incentive Mechanism B ₁₀ (0.833)	Employee Stability ₂₀ (0.625)	0.029
		Average Prohibit C ₂₁ (0.208)	0.010

$$CI = \frac{\lambda - n}{n}$$

To measure CI, RI is involved to use :

$$RI = \frac{CI_1 + CI_2 + \dots + CI_n}{n}$$

RI is well relative to n, normally, error is the same change with n. Considered the happening

of error, it's necessary to compare CI with RI:

$$CR = \frac{CI}{RI}$$

If CR < 0.1, then the result is reasonable or not.

After calculating and analysing, CR < 0.1, then

all are through testing.

Here is the result, as followed (table number II)

EMPIRICAL ANALYSIS

Table3. Lidu liquor mark

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	
Scheme layer	A	7.3	6.3	7.0	8.0	5.0	4.7	4.7	4.7	5.7	8.7	5.3	7.3	7.7	4.7	7.7	5.7	7.3	9.0	6.0	7.0	7.0
	B	9.0	7.3	8.7	8.7	6.0	5.7	5.3	5.3	6.7	8.9	6.7	8.3	8.7	5.3	7.7	6.0	7.3	9.5	8.0	7.8	8.0
	C	7.0	7.0	7.3	7.0	5.0	5.3	5.3	5.0	6.0	8.2	6.7	7.3	7.7	5.3	6.7	6.0	7.3	8.5	7.8	7.2	7.8
	D	7.3	7.3	8.0	9.0	5.0	5.0	5.0	5.0	5.7	7.7	6.0	7.0	7.6	4.3	8.3	5.7	7.3	9.0	6.0	6.8	7.7
Comprehensive	A	6.2																				

mark	B	7.1
	C	6.5
	D	6.4

Evaluation Object

The research takes Lidu liquor for example, Ruins of lidu liquor workshop is rewarded as “national relic protection unit” by state department, which is Chinese oldest, richest and the most abundant enormous liquor workshop relic. Lidu ancient cellar, Lidu Gaoliang , Lidu Boutique, Lidu thirty are chosen to evaluate and compare.

Collection of the Datum

Separate the datum into two parts, one is quantitative index and the other is qualitative index. The quantitative index is mostly from enterprise website and company website, the rest is from deeply inner investigating. The qualitative index is determined by experts

Mark

After calculating, collecting and neatening, the final comprehensive mark is as followed (table number III)

RESULT ANALYSIS

Analysis of Index Weight Results

According to table 2,we can conclude three indexes, degree of system perfection (C12),revenue growth rate(C14), market share (C5),with0.178,0.124,0.100,the result manifests that for Lidu liquor , market share, degree of system perfection ,revenue growth rate is the crucial index.

And “degree of system perfection (C12)”,belonging to “enterprise culture(B6)”,is the most important index in this one;“revenue growth rate(C14)”belonging to “profitability(B7)”,is the most crucial one;“market share (C5)”belonging to“ market achievements (B3)”,is the most vital one. Based on table 2, in Lidu liquor enterprise's competitiveness model, ten second class indexes, "enterprise culture(B6)" ,

“Profitability (B7)”, “market achievements (B3)”are higher than other index, with more than 0.15 .Enterprise culture, profitability, market achievements are crucial factors in Lidu liquor enterprise’s competitiveness. Yang Liu “Chinese liquor industry’ score competitiveness lies in culture” [7],it is the same as the result of high enterprise culture proportion .So, Culture power is an essential index.

Technological innovative ability, marketing ability, brand competitiveness, financial ability, human resources ability, these five first class indexes are important index of liquor enterprise’s competitiveness, however, according to table 2, the weight is not equal to the meaning. And, when improving liquor enterprise’s competitiveness, Current situation should be considered, and the most is marketing ability and brand competitiveness.

Comprehensive Mark Analysis

Due to table 3, the order of the liquor competitiveness is for Lidu Gaoliang (B), Lidu Boutique (C), Lidu thirty (D), Lidu ancient cellar (A) with 7.1, 6.5, 6.4, 6.2.

Combine table 1 and table 3, In technological innovative ability, $B > D > A > C$; In marketing ability $B > C > D > A$; In brand competitiveness $B > C > A > D$; In financial ability $B > D > A = C$ In human resources ability, $B > C > D > A$. Thus, marketing ability, brand competitiveness, financial ability constitutes core competitiveness. On the basis of Lidu liquor rank and mark, we can gain the specific analysis as follows :

The development of Lidu Gaoliang (B) is balanced, its scores of main competitiveness indexes are the highest, marketing ability, brand competitiveness, financial ability. This is an ideal condition and the direction and aim.

The development and evaluation of Lidu Boutique (C), Lidu thirty (D) and Lidu ancient cellar (A) is different from Gaoliang (B), which is imbalanced and incongruous. Lidu Boutique (C) is weak in technological innovative ability and financial ability, and common in other three index, the lack of financial ability influence its mark and rank immensely. As for Lidu thirty (D) and Lidu ancient cellar (A), with the third and the forth rank, They show no advantage in the three main competitiveness in serious imbalanced development. Their trends are far from the correct aim.

THE POLICY ON IMPROVING LIDU LIQUOR COMPETITIVENESS

Develop Brand Competitiveness and Attach Importance to Consistence between Consumer and Brand

We can learn from the final weight that brand

competitiveness weight the highest with more than 0.3 and it's vital for enterprise's competitiveness. Meanwhile apparently, only improve brand competitiveness, can enterprise live longer than before. To develop brand's competitiveness, it's important to pay attention to consistence between consumer and brand. Enterprise should be satisfied with consumers and start with both sides: One is that promoting enterprise's own strength ,locate enterprise's brand ability reasonably and make correct and proper direction ;or develop enterprise culture by boosting enterprise culture soft power ,promoting cultural immersion model and setting up relative situation; the other is consumer, based on consumer psychology ,enterprise can make corresponding propaganda ,promise to consumer on the basis of enterprise brand promise and attach importance to liquor liability system which can give consumers enough sense of security and enhance customer loyal.

Improve Liquor Marketing Ability; Meet Balance between Demand and Supply

Liquor marketing ability is a crucial factor. Even though having advanced technology, Enterprise must meet changing needs and change its market policy. To make reasonable market policy, you can follow the aspects:

At first, pay attention to market demand and supply. The needs of consumer will influence the supply through market price. Thus, the needs for liquor are the direction of market policy's decisions. The enterprise should combine policies, demands and investigation for consumers by liquor enterprise.

Second, make reasonable price system. The demand and supply will be impacted by price and others' price directly. The influence of market imbalance is enormous. Thus, Enterprise must change price accurately with the market based on strength in time. But lower cost within keeping quality and brand image is not an easy thing, which still excavate more deeply.

Thirty, Rational consumption and production. Rationality of selling access is also an essential index. In the same time when broadening selling, Inventory should be attached importance because the more selling access, the more inventories will be produced and the price will change along with it. In marketing, learn from the successful enterprise and take in new pattern is also a good way to intensify its own system. Lidu Gaoling, for example, has adopted

immersion pattern, through letting consumers be exposed to culture and deepening preference for liquor. It is a good example reviving consumption, promoting demand.

Value Financial Ability and Keep Stable Increasing Rate

The sharp rise in enterprise revenue in the short term does not mean that enterprise becomes really strong and has strong vitality. Continuously stable development can make the enterprise more fluent in the future. To develop stably, first of all, enterprise should appreciate financial management and make full use of asset to arrange legitimately by training talents and appealing more talents; besides, promoting market share is also necessary and crucial. To do this, enterprise must enjoy the market for certain influence, more consumption and income increasing. In addition, enterprise can also lower manage cost, such as Financing, joint-venture, cooperation and so on for lifting coverage and achieving profit maximization for the competitive Firm.

CONCLUSION AND SUMMARY

The establishment of evaluation index system on basis of AHP can reflect objectively Lidu liquor enterprise's competitiveness and be helpful to make policy on enhancing Lidu liquor enterprise's competitiveness .In the first class index ,“brand competitiveness ”is the highest with 0.348 ; In the second index ,“degree of system perfection ”,“revenue growth rate”,“market share” are the top three with more than 0.15.We can conclude that, to boost Lidu liquor enterprise ,the manager must make great efforts in institution income and market share. Catch consumers' psychology and spread enterprise culture.

Lidu liquor has its own strengths, so it is expected to keep its advantages and improve weakness. Different liquor has its own point, but enterprise culture, establishment of system and marketing capacity are more important than others. But don't focuses on one thing, every index have an influence on competitiveness, so enterprise should develop in parallel, balance the second focus and the first focus, improve together and not cling to the current situation. Enterprise also needs to be concerned about currency, index weight and its own situation for policy-making. And the system just only supports direction and the final action should adjust to the whole present status for maximum utility.

REFERENCES

- [1] Long Zhi, Huang Pin, Zeng Shaolun .liquor listed company competitiveness evaluation analysis [J]. Liquor Making Science & Technology, 2018(01):135-142.
- [2] Yang Liu .Chinese liquor industry international strategic analysis [J].Liquor-Making Science & Technology, 2005(08):103-106.
- [3] Fang Meiyan. Sichuan province liquor industry regional competitiveness research [D]. South western University Of Finance And Economics, 2009.
- [4] Ming Qian, Feng Zhijun .Heilongjiang province local liquor enterprise core competitiveness evaluation [J]. Journal of zheng zhou aviation industry management college, 2016, 34 (04): 78-86.
- [5] He Lei . Chinese liquor brand competitiveness research [D]. Hubei University, 2013.
- [6] Guo Tingting, Chines liquor enterprise core competitiveness evaluation analysis [D] , Master Thesis, Northeastern University,2008.
- [7] Yang Liu,. Chinese liquor industry core competitiveness research [J], .Liquor-Making Science & Technology, 2006(01):88-90.
- [8] Xu fa. Chinese liquor industry situation and developing trend analysis [D]. Hefei industry university, 2010.
- [9] Ireneusz Miciuła, Joanna Nowakowska- Grunt. Using the AHP method to select an energy supplier for household in Poland [J]. Procedia Computer Science,2019,159.
- [10] Lee L F Hutton Amy PShu Susan. The role of social median the capital market: evidence from consumer product recalls [J] Journal of Accounting Research, 2015 (53): 367 – 404.
- [11] Lancaster kelvin J.A: New Approach to consumer Theory[J], Journal of Political Economy.1966:pp.424-440

Citation: Li Wei, “Examining Consumer Perception on Alcoholic Brands - A Case Study of Lidu Liquor Enterprise Competitiveness Analysis with AHP”, *Journal of Banking and Finance Management*, 2(4), 2019, pp. 1-6.

Copyright: © 2019 Li Wei. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.