

Analysis of Brand Ecological Limiting Factor and Brand Development Strategy——Take Tianjin City as an Example

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Abstract: Brand ecology is a system of interaction between brands and the ecological environment they are attached to. Brand ecological factors are environmental factors that affect the survival and development of brands, including economic ecological factors, social ecological factors, enterprise ecological factors and other ecological factors. Based on the analysis of ecological factors, this paper identifies the leading factors. The empirical results show that technological innovation factors, material market factors, labor market factors, passenger transport factors, consumer market factors have a significant impact on brand value. After eliminating multicollinearity by stepwise regression, it is concluded that technological innovation is the dominant factor affecting brand value of Tianjin.

Keywords: Brand ecology; Ecological factor; Technological innovation factor

1. Problem proposed

Brand is the core competitiveness of a region and a positive factor to promote regional progress. Although Tianjin has always attached importance to brand economy, its development is always weak compared with Beijing, Guangdong and Shanghai. A total of 133 Chinese companies are listed on Brand Finance's "Top 500 Global Brands by Value 2020" list, but Tianjin has no place in the list. There are only 7 enterprises in Tianjin in the list of "Top 500 Chinese Brands in 2020". The main problems are as follows: First, lack of awareness of big brands; Second, product homogeneity is serious, innovation is serious insufficient; Third, brand management is not sound, and brand construction is not systematic, consistent and long-term^[1]. Therefore, this paper starts with the ecological factors that affect the brand development, analyzes the leading factors, and solves the problems existing in the brand development.

2. Variable Design

Generally speaking, economic ecological factors include consumer market, capital market, material market, labor market and industrial structure factor. Social ecological factors include political environment, culture, education, social system and policy; Enterprise ecological factors include enterprise culture, marketing management, technological innovation and quality management; Other ecological factors include natural resources, logistics, information and media, etc.^[2]. Based on these influencing factors, this paper uses factor analysis method of State software to discuss the influence of leading factors on Tianjin brands.

In this paper, the brand value in "China's 500 Most Valuable Brands" by World Brand Lab 2020 was selected as the dependent variable, and the data were authoritative and accurate. In order to ensure the accuracy and measurability of the acquisition of explanatory variables, the dependent variables in this paper are consumer market factor, material market factor, industrial structure factor, education factor, technological innovation factor, quality management factor and logistics factor. The symbols and definitions are shown in Table 2.1.

Table 2.1 Symbols and definitions of related variables

variable	symbol	Definition	description
The dependent variable	brand value	brand	The brand value
Explain variable	consumer market	consumption	consumption Expenditure in Tianjin
	materials market	materials	total assets of retail and wholesale enterprises in Tianjin
	labor market	labor	average Wage of Tianjin
	industrial structure	structure	ratio of the proportion of secondary industry to tertiary industry
	education	education	education Funds of Tianjin
	technology innovation	innovation	Tianjin technology market turnover
	quality management	quality	qualification rate of spot check in Tianjin
	logistics	passengers	passenger volume of Tianjin
freight	freight	Tianjin cargo volume	

3 Empirical Analysis

Table 2.2 Table of Phase Relation Numbers

	brand value	consumer market	materials market	labor market	industrial structure	education	technology innovation	quality management	logistics	freight
brand value	1.000	.575	.873	.7763	-.549	.279	.991	.271	.341	-.024
consumer market	.677	.993	.822	.433	-.456	.537	.706	.296	.288	.201
materials market	.903	.855	.994	.578	.462	.549	.861	.175	.494	.073
labor market	.311	.403	.732	-.309	.545	.604	.211	.489	.098	.081
industrial structure	-.779	-.445	-.490	-.201	1.000	.165	-.693	-.017	.143	.567
education	.399	.348	.528	.471	.192	1.000	.162	-.362	.787	.658
technology innovation	1.000	.783	.906	.879	-.643	.135	1.000	.208	.175	-.039
quality management	.248	.271	.136	.421	-.056	-.115	.378	1.000	-.093	-.107
logistics	.224	.223	.501	.264	.119	.807	.332	-.073	1.000	.603
freight	-.031	.127	.173	.545	.488	.708	-.039	-.124	.812	1.000

As can be seen from Table 2.2, except for the freight volume factor, other variables are highly correlated with brands.

Table 2.3 Table of Coefficients

model	Non-standardized regression coefficient		Beta	Check value t	Sig
	B	standard deviation			
Constant	721.957	1332.857		.541	.517
consumption	-.126	.077	-.242	-.268	.024
materials	.469	.153	.509	2.935	.001
labor	.000	.088	.450	.137	.004
structure	16.496	669.104	.021	.033	.949
education	.044	.000	-.089	-1.765	.140
innovation	.000	.000	.558	5.040	.000
quality	1411.990	1538.073	.065	.553	.721
passengers	.006	.002	.198	2.880	.015
freight	-.012	.008	-.054	-.873	.320

The above table shows that on the basis of $\alpha=0.05$, technology, material, labor, passenger transport and consumer market factors have a significant impact on brand value. In order to find the leading factor, the data were further regression, and the complex correlation coefficient was $R=0.987$. The overall correlation of this equation was high. $F=286.764$ ($\alpha=0.05$), indicating that the regression equation is significant at the level of $\alpha=0.05$. After eliminating multicollinearity by stepwise regression, the T value of technological innovation factor is 28.762, and the T value of labor market factor is 10.604. By calculating the Beta coefficient of all variables, it can be seen that the Beta coefficient of technological innovation factor is 0.977, and the Beta coefficient of labor market is 0.433. Therefore, technological innovation is the dominant factor affecting the brand value of Tianjin.

4. Suggestions on brand development strategy of Tianjin

4.1 Improve the technological innovation capability of regional enterprises

Technological innovation is the decisive leading factor that affects Tianjin's brand value to stagnate. The government should integrate production, education and research, and allocate special funds to enterprises with good brand building foundation. Unifies the universities, establishes the "production, education and research integration economy", the university cooperates with the enterprise to solve the problem.

4.2 Give play to the government's advantages

Tianjin should establish a working mechanism of brand construction, which is promoted by the government, taken the initiative by enterprises, organized and coordinated by chambers of commerce and trade associations, improve the brand ecological environment, and coordinate the mutual relations among the economy, politics, culture and natural environment of the brand.

4.3 Relying on industrial clusters

Tianjin should learn from the experience of regions with developed brands, develop supporting industries and upstream and downstream industries, change the pillar industry of machinery manufacturing industry into leading industry, and change the single product into industrial cluster. In addition, the enterprises should communicate with each other, with well-known enterprises to drive the well-known enterprises, strong enterprises to pull the weak enterprises.

References

- [1] GUAN Jian. Analysis and Suggestions on Tianjin Brand Economy [J]. Economic Outlook of Bohai Rim, 2015(10):44-47.
 [2] Paul Hawken, translated by Xia Shan, et al. Business Ecology: A Manifesto for Sustainable Development[M]. Shanghai: Shanghai Translation Publishing House, 2001.