

Chapter 3

Study on Competitive Power of Chinese Retail Chain Company

Qingwen Li

Abstract When wanting to improve competitiveness, what should retail chain companies do—reduce or enlarge? Which has more influence on competitiveness, shop numbers or shop area? Is improving the self-distribution an effective way? This paper tried to answer these questions based on the empirical analysis of the relationship between market share, sale growth rate and shop numbers, shop area, self-distribution.

Keywords Chain retail company · Competitiveness · Chain

3.1 Foreword

There is statistics showing that in 2008 even though the sales of the top 100 Chinese retail chain enterprises had grown to 18.4 %, it was the first time that the growth rate had been below the rate of social total retail sales of consumer goods which was 21.6 %. What is more the growth rate of the top 100 Chinese retail chain enterprises' sales scale also continued to slow down and dropped from 45 % in 2003 to 21 % in 2007. These data suggest that in the development of chain operation in China there has appeared a sign of obvious slowing, which goes against the strategy implementation for the modern circulation system which is mainly based on chain operation, logistics, and e-commerce and the requirements of the development of expanding Chinese domestic demand, which is not harmonious with the development speed of the Chinese economy. How to raise the competitiveness of Chinese retail chain enterprises? We need an urgent answer to

Q. Li (✉)

Guangxi International Business Vocational College, Nanning 530007, China
e-mail: liqingw237wei@126.com

this question in the background of transforming the economic development mode. As a result, both in theory and in practice, it is extremely significant for the research on the effect from quantity of stores, business area, and owned distribution ratio for competitiveness of Chinese retail chain enterprises.

3.2 Related Theories of Competitiveness of Chinese Retail Chain Enterprises

Scholars both at home and abroad have mainly focused on the reasons for the existence and boundary of the chain and others for retail chain enterprises. Oxenfeldt and Kelly (1968) think that enterprises use the mode of chain operation to get scarce resources that they do not own, because resources for enterprises are limited [1]. The capital financing theory indicates that newly established enterprises can overcome the shortage of capital with the mode of chain operation [2]. Carney and Gedajlovic think that the mode of chain operation is helpful for cost reduction [3]. Martin (1988) indicates that the mode of chain operation is helpful for allocation of risks.

Sun Xun and Tan Xiaoling think that scale operation is the life of enterprises, and they point out that mutual equity, holding stocks, mergers, cooperation, and other forms will be helpful for chain enterprises to expand their advantages [4]. Zou Qian (1999) thinks that we can learn from the German experience, on the basis of researches on retail chain enterprises in Germany. First, the scale operation can give full play to the economic effect. Second, set up various forms of chain stores according to different consumption levels; third, strive to develop the franchising. She also gave suggestions to establish distribution centers to speed up the development of Chinese chains development [5]. Yang Yimiao holds the view that scale operation is the basic condition for chain Enterprises' benefit, which requires chain enterprises' scale to be not smaller than that of minimum economic size (minimum moderate scale for MES), and she points out that the small number of branches is a prominent problem for Chinese retail chains. She also suggested that we need to enhance the construction of distribution centers, strive to develop franchising, and the government should strengthen its support and guidance [6]. Zheng Wenquan (2002) has researched competitiveness of Chinese retail chain enterprises from the point of economies of scale, information economics, transaction cost economics, and property right economics. He thinks chain operation is an effective shortcut to seek the economies of scale in the field of circulation. What is more, chain operation reduces the uncertainty in terms of organizational design and transaction costs effectively. Xie Qinghua and Huang Peiqing (2004) think to enhance construction of distribution centers and improve concentration distribution rate as the main approaches to raise the competitiveness of Chinese retail chain enterprises. Wu Guoxin and Wan Zhejun (2007) suggest to improve the concentration of industry which is the only way to raise competitiveness. They also point out that large retail chain enterprises can enhance competitiveness

through joining or merging with other enterprises. Luo Jianhong and Sun Weidong have analyzed the developing trend of Chinese retail chain enterprises from the point of retail distribution and the core competitiveness of the top 100 retail chain enterprises during the “10th Five-Year Plan”, and they point out that retail chain enterprises should pay attention to construct, maintain, and enhance core competitiveness and seize change rules and trends of the chain retail so that they can form a lasting competitive advantage.

In terms of the existing research, although we have obtained many achievements, the research on competitiveness of retail chain enterprises is limited by way of qualitative analysis, hence the persuasion is not strong enough. If we can use the way of quantitative analysis, people will not only further understand the factors that have influence on the competitiveness of retail chain enterprises, but can also confirm the degree of influence from various areas on the competitiveness.

3.3 Selection of Variable and Description of Sample Data

This paper studies the relationship among market share, sales growth rate, stores' quantity, area of business, and owned distribution proportion.

Mktsh stands for market share, the ratio of total sales of regional retail chain of total, and the corresponding total retail sales of social consumer goods.

Growthsal stands for sale increase rate, annual total sales of regional retail chain minus previous year's total sales, then dividing the previous year's total sales in regional retail chain, and the price remains unchanged.

Shopnumber is stores' quantity and shoparea is area of business; the unit is million square meters. In order to reduce the interference of different orders of magnitude of variable and heteroscedastic data, we use natural logarithms for the two variables, using lshopnumber and lshoparea for the corresponding variables.

Distripro stands for owned distribution proportion, ratio of purchase number of dispatching goods, and all of the goods.

All the data used in the research are from China statistical yearbook since 2004, because the data needed is only included in China statistical yearbook after 2005, so the author analyzes the data of various regions from 2005 to 2008. There are 30 data 7 for each variable every year, 120 data in all for four years.

3.4 Econometric Model and the Analysis of Empirical Results

3.4.1 Econometric Model

The authors established the following model using China statistical yearbook relevant data since 2004:

1. Model A

$$\text{mktsh} = \alpha_0 + \alpha_1 \text{distripro}_{it} + \alpha_2 \text{lshopnumber}_{it} + \alpha_3 \text{lshoparea}_{it} + a_i + u_{it} \quad (3.1)$$

$$i = 1, 2, \dots, 30 \quad (3.2)$$

$$t = 2005, 2006, 2007, 2008 \quad (3.3)$$

i represents provinces (municipalities and autonomous regions), t represents year. α_0 represents intercept, a_i represents the unobserved effects: it represents all factors that influence market share and do not change by time. u_{it} is random error. mktsh and distripro and some other variables have been introduced before in the equation.

2. Model B

$$\text{growthsal} = \beta_0 + \beta_1 \text{distripro}_{it} + \beta_2 \text{lshopnumber}_{it} + \beta_3 \text{lshoparea}_{it} + a_i + u_{it} \quad (3.4)$$

$$i = 1, 2, \dots, 30 \quad (3.5)$$

$$t = 2005, 2006, 2007, 2008 \quad (3.6)$$

i represents provinces (municipalities and autonomous regions), t represents year. β_0 represents intercept, a_i represents the unobserved effects: it represents all factors that influence market share and do not change by time. u_{it} is random error. growthsal represents sale increase rate, distripro has the same meaning as in model A.

3.4.2 The Analysis of Empirical Results

The author uses mixed OLS, fixed effect, and random effects to estimate the above model respectively, and the results are as follow:

According to Tables 3.1 and 3.2, though three kinds of measurement methods have shown different results, they still have something in common. And which method is the best? First let us analyze model A.

The way of fixed effects has a judgment coefficient 0.951, which is twice more than that of the other two ways, so it has the best effect. In addition, the article has examined the way of fixed effects and random effects, and the result is that in random effects the Chi Square statistic of Hausman Test is 1.039154, and the probable value is 0.7918; in fixed effects the statistic of F and Chi Square is 31.715777 and 293.829836, and the probable value is 0.0000. The test results indicate that model A should adopt the method of fixed effects, which is the same as model B.

Table 3.1 Three different estimators for model A

Dependent variable: mktsh			
Independent variable	Mixed OLS	Fixed effects	Random effects
distripro	-0.008227	0.010134	0.019682
	(0.480824)	(0.606392)	(1.306366)
	0.6319	0.5459	0.1940
lshopnumber	0.135338	0.055208	0.051995
	(5.933579)	(5.492805)	(5.956125)
	0.0000	0.0000	0.0000
lshoparea	0.041034	0.016795	0.019101
	(2.862186)	(2.593207)	(2.933432)
	0.0053	0.0112	0.0040
<i>n</i>	90	120	120
R^2	0.449354	0.950911	0.451818
<i>F</i>	23.3934	46.49083	31.86956
<i>F</i> (Prob)	0.000000	0.000000	0.000000

Table 3.2 Three different estimators for model B

Dependent variable: mktsh			
Independent variable	Mixed OLS	Fixed effects	Random effects
distripro	-0.173229	(-0.176938)	2.903327
	(-0.117176)	(0.606392)	(2.700008)
	0.9070	0.8600	0.0080
lshopnumber	1.454591	1.463027	-1.338408
	(0.736119)	(1.74186)	(-2.565354)
	0.4625	0.0852	0.0116
lshoparea	0.438465	1.023352	1.047824
	(0.353981)	(1.890877)	(2.312050)
	0.7242	0.0621	0.0225
<i>n</i>	90	120	120
R^2	0.011564	0.486683	0.135499
<i>F</i>	0.335387	2.275473	6.060490
	0.799775	0.001155	0.000720

The above analysis and the corresponding measure results inform that:

Market share and store quantity have a positively related relationship, which is obvious in the statistical result.

Market share and area of business have a positively related relationship, the statistical result is below 0.05.

The relationship between market share and owned proportion of the distribution center gets different results in three kinds of measurement methods, and it is not obvious below 0.10, besides, symbols of coefficients are not uniform. This means the measure results cannot refuse the hypothesis that proportion of the distribution

center has the Zero coefficient to market share, which means the former has little effect on the latter.

The sales increase ratio and the area of business have a positively related relationship, which is obvious below 0.10. Assuming the ratio of the two factors is unchanged, if the store quantity raise 1 %, the sales increase ratio will raise 1.46 %.

Sales increase ratio and store quantity have a positively related relationship, which is obvious below 0.10. Assuming the ratio of the two factors is unchanged, if the area of business raises to 1 %, the sales increase ratio will raise to 1.02 %.

The relationship between sales increase ratio and owned proportion of the distribution center gets different results in three kinds of measurement methods, and it is not obvious only in the method of random effects, besides, symbols of coefficients are not uniform. This means the measure results cannot refuse the hypothesis that the proportion of the distribution center has the Zero coefficient to sales increase ratio, which means the former has an uncertain effect on the latter.

3.5 Conclusions and Enlightenments

We can get some conclusions and enlightenments from the analysis of empirical results as follows:

To increase the retail chain store quantity and expand area of business is helpful for raising the market share. Comparatively speaking, the way of increasing the retail chain store quantity is better.

To increase the retail chain store quantity can not only raise market share but also improve the sales ratio, and the effect on improving sales ratio is more obvious.

Both increasing the retail chain store quantity and expanding the area of business is helpful for raising sales ratio. To increase the retail chain store quantity is more efficient.

Raising the owned proportion of the distribution center has little effect on raising market share and sales ratio. It is suggested that Chinese retail chain enterprises should not build distribution centers aimlessly, but need to pay more attention to increasing the retail chain store quantity and expanding area of business. In addition, they should take advantage of societal forces to develop the delivery. Never invest the delivery aimlessly especially when economics is suffering a downturn.

To raise the market competitiveness, retail chain enterprises should pay attention to increase the store quantity, of course to expand area of business is also important. Comparatively speaking, the former has a better effect. This situation shows that the scale is too small for such a widespread problem for Chinese retail chain enterprises, so the urgent affair for them is to expand the scale of operation.

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