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The Supermarket Supply Chain in Shanghai

ABSTRACT: The authors conducted a series of structured interviews with managers of ten supermarket chains in Shanghai to compare supermarket business practices in Shanghai with those in the United States, emphasizing logistics management issues. Shanghai supermarkets tend to be smaller than U.S. stores, but the store layout and product selection are similar in both countries. While the Shanghai supermarkets have modern scanning equipment, they do little quantitative sales or inventory analysis.

INTRODUCTION

It is interesting to see how a business formula is translated to other countries. This is particularly true with an "All-American" business like supermarkets in a centrally controlled economy like China. In this article, we will look at the development of the supermarket supply chain in Shanghai, China. Five years ago, there was only one supermarket in Shanghai. Today there are over 800 stores operated by 25 different companies. This amazing growth leads to some interesting business patterns compared to U.S. supermarkets. In this paper, we will discuss the similarities and contrasts of the supermarket supply chain in Shanghai versus the U.S. model.

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Background

Shanghai, China is a sprawling metropolis with a population size over 16 million people. It is on the southern coast of China at a latitude roughly equal to Houston. It is considered to be the most market-oriented city in China. While Beijing is considered a cultural and government city like Washington, DC, Shanghai is a commercial city analogous to New York City.

From outward appearances, Shanghai is a typical international city. Most signs are in Chinese and English. International commercial names like Volkswagen and McDonald's are prevalent throughout the city. The most remarkable features of Shanghai to an outside observer are the number of bicycles and the vast volume of new construction of roads and skyscrapers.

Shanghai is an urban city with most people working and living in the city. Private cars are unusual, and most people walk or use a bicycle to get around. Salaries are very low by western standards, but housing, health care and other necessities are provided or heavily subsidized by the government.

The Emergence of Supermarkets

The Chinese government sets certain broad guidelines on the development of industries, but there is some latitude in how these industries actually develop. In 1993, most fresh fruits, vegetables, fish and meat were purchased in outdoor wet markets in Shanghai, markets that are roughly comparable to U.S. vegetable stands. Grain and canned goods were sold in state-owned stores, a retail set-up where there are multiple checkouts for different categories of goods and the inventory of product is behind a counter. A clerk brings the customers the products they select. In 1993, the Ministry of Internal Trade began to promote chain supermarkets in Shanghai by converting 100 grain and canned good stores. A supermarket for these purposes is defined as a store where customers take the products off the shelves themselves and there is a central checkout for all goods. In 1994 another 421 grain and canned good stores were upgraded. In 1996, the Shanghai municipal government established a plan to convert outdoor wet markets into indoor markets to improve traffic patterns in the city. The Chinese government also announced a plan to have 10 megamarkets (essentially large supermarkets) in Shanghai on the border between the inner and outer ring roads of Shanghai before the year 2000 (ATO Report, 1996). From this broad government outline, the Shanghai supermarket industry grew from only one store in 1993 to over 800 stores today.

Even with 800 supermarkets, most of the food in Shanghai continues to be purchased at wet markets and at grain and canned goods stores. Supermarkets, for example, only had 10% market share for fruits and vegetables in 1997 (Seymour-Cooke). The Chinese government plans to convert another 500 grain and canned goods stores into supermarkets, however, and expects supermarkets to account for 20% of sales of fruits and vegetables in two to three years (ATO Report, 1996). It is difficult to reconcile these market share numbers, but it is safe to say that while the number of supermarkets is growing rapidly, they still have a minor share of the food market in Shanghai.

Methodology

The Purdue University Center for Agricultural Business offered a supply chain logistics course to Chinese supermarket executives in the spring of 1999. To prepare for this course, the authors made a one-week visit to Shanghai in December 1998 to better understand the business environment. We interviewed managers from ten Shanghai supermarket chains, asking a structured list of questions:

1. *Products:* What are the products sold at the store? What are the prices? What are the routine purchases analogous to the staple U.S. products like milk, eggs, and bread?
2. *Procurement:* What alternatives exist for a supermarket manager to procure product? What volumes accompany these alternative procurement channels? How do costs differ across these alternate channels? Do the manufacturers (suppliers) offer direct store delivery? What terms are offered for payment? Is there any inventory sold on consignment?
3. *Demand:* What are the product demand volumes observed? How much of this demand is influenced by retail price promotions? How variable is the demand by day of week? How much inventory is carried at different points in the supply chain?

We also obtained background information on business conditions in Shanghai from the U.S. Agricultural Trade Office and information on consumer trends from the ACNielsen office in Shanghai.

The Shanghai Supermarket Business

Shanghai supermarket chains are either state-owned or a joint venture with a state-owned company. There are about 25 companies or joint ventures in the Shanghai supermarket industry operating over 800 stores. The largest chain, Lianhua, operates 100 state-owned stores and 200 joint venture stores with a Hong Kong company. There are no nationwide chains throughout China. The Chinese government continues to encourage joint venture firms to enter the market. They are said to be especially interested in U.S., European, and Japanese companies that can bring advanced management techniques to the Chinese market.

Individual stores tend to buy about 70% of their needs from local wholesalers of fruits, vegetables, and meat. There is a state-owned company that supplies all of the milk and some dairy products. Non-perishable products are typically supplied by the chain store's warehouse located outside the city. These warehouses are largely supplied by Chinese food distributors, with about 20% of product coming directly from manufacturers, especially manufacturers located in the greater Shanghai area.

A Comparison of U.S. and Shanghai Supermarkets

From this general background, we will now outline the similarities and contrasts between U.S. and Shanghai supermarket chains.

Store Layout and Size

The supermarkets in Shanghai tend to be much smaller than their U.S. counterparts. A large supermarket in Shanghai has shopping floor space of 10,000 square feet. A typical U.S. supermarket is 5-10 times this size. There are two major factors that lead to this size disparity. First, land in Shanghai is very expensive. All land is state-owned. Typically a company will negotiate a long-term (e.g. 70 years) lease, but the cost is high compared to the cost of land for a U.S. store. Second, since most customers do not have cars, their average purchase is very small. They make frequent visits, perhaps two or three times per week, and they also use the wet markets and department stores for their other shopping needs. Most of the customers used baskets to carry their items around in the store, but a few used small carts. There were no large carts like a person would see in a U.S. store.

The layout of the Shanghai stores is very similar to U.S. stores. There are some variations in consumer tastes (e.g., more fresh produce and almost no prepared frozen foods like TV dinners) which leads to a different distribution of product, but overall an outside observer is more impressed with the similarities rather than the differences.

Contrary to our expectations, most of the Chinese supermarkets we visited had a bakery, liquor, greeting cards, and personal care items similar to a U.S. store. Most of the Chinese supermarkets we visited exceeded U.S. stores in their inventory of cooking utensils, electronics (like televisions and stereos), and some even sold personal computers. None of the supermarkets that we visited had a pharmacy.

Product Selection and Pricing

There are a wide variety of international brand names in most Chinese supermarkets. Prices are similar, or perhaps even lower, for most standard items compared to U.S. prices. About 70% of the sales of a Chinese supermarket are fresh produce, milk, fish, and meat.

There are a number of international companies that have manufacturing plants in China such as Procter and Gamble. Some Chinese supermarket managers believe that the quality of these products is lower than U.S. standards and may pay a large price premium to buy the imported equivalent, especially stores that cater to American or European customers.

Store brands are not very prevalent. Store managers said that product quality could vary greatly, and they did not want to jeopardize their brand name. The store brands that we did see were for minor products such as disposable paper products.

Joint venture supermarkets have large selections of products originating from the country of the joint venture partner (e.g., No. 1 Yoahan had a large selection of Japanese products, Carrefours provides large selections of French products). The U.S. Agricultural Trade Office in Shanghai commissioned a Gallup poll to determine the most important product characteristics of food purchased by Chinese consumers. The most important characteristics to a consumer are price, sanitation, healthiness, nutritiousness, and taste. “Imported” was the last of 17 criteria influencing food purchases (ATO Report, 1997).

New Products

The percentage of new products that is introduced by stores we interviewed varied from 10 to 30% new SKUs (stock keeping units) per year. The typical Shanghai supermarket maintained about 5,000 SKUs active at any given time, so the stores were introducing 500 to 1,500 new products each year and dropping roughly an equal number. Many of the changes were different brand names. Stores with a higher percentage of new product introductions usually had a higher proportion of imported brands and higher margins. The higher margins may be a compensation for the risk in the introduction of new products.

Inventory Policy

Individual stores carry about 15-20 days of inventory, which is similar to a U.S. store. A Shanghai chain will carry about 10 days of inventory at the warehouse, higher than a U.S. store, which only carries about 2 days of inventory. A Shanghai food distributor can deliver product within 2 days in most cases, so it does not appear that the extra inventory is carried as safety stock. More likely, the Shanghai chains carry what appears to be excessive inventory because any expired product can be returned to the manufacturer for full credit. The relative power of retail stores is strong compared to the manufacturer, so these payment terms (known as “concession”) are widespread. The concession policy substantially reduces the risk of carrying high levels of inventory. Payment terms are typically 50-60 days for a Shanghai supermarket, so, even with the high levels of inventory, money is typically collected from customers before suppliers need to be paid.

The major example of a product sold on consignment is Haagen-Dazs ice cream. Haagen-Dazs provides a freezer and the ice cream. Payments are collected by the Haagen-Dazs salesperson who visits to replenish inventory and clean up the freezer on a regular basis. Prices of this ice cream are high relative to US standards − about $10 a pint. However, such a system guarantees a uniform product placement in the store and good control over product and inventory. Similar consignment strategies were followed for Hallmark cards and impulse goods near the checkout.

Producers make shipments to the supermarket chain warehouses in large trucks. The supermarket chain typically owns their own fleet of smaller trucks to transport product from the warehouse to individual stores, and they also hire people with flatbed bicycles for deliveries to certain stores.

Management

Most supermarket managers have training in economics or engineering in a Chinese university (unless they were college-age in the Cultural Revolution era, in which case they usually would not have university training). In China, college is not expected to prepare the person for the job, but simply to give general education; the real training is on the job. A manager in a U.S. store probably has university training more specific to their job responsibilities.

Since information systems are not as well developed in China, the store manager spends a great deal of time with day-to-day business. A store manager, for example, decides manually on inventory levels for the 5,000 − 10,000 products in the store. The Chinese store managers do not embrace a concept of min/max or reorder point. They also do practically no sales trend analysis, except for the qualitative level they gain from experience.

A store manager has very little price authority. The head office of the chain sets prices. Most prices are the same for all the stores in the chain, although there is some allowance made for local competitive situations. The average mark-up for a store is 18-20%, slightly higher than an average U.S. chain, but most of the Chinese stores claimed they are not profitable. The Chinese supermarket managers said their biggest problem was the low prices offered by the competition (some things are the same everywhere!).

A store manager makes about US$10,000 per year, which is a fairly good salary in China since, as mentioned earlier, housing is subsidized and many other expenses are paid by the state.

Checkout

Most Chinese supermarkets have modern scanning equipment. This does not appear to be for labor savings, as there is usually an abundance of people working in the supermarkets and the checkout lines are very short. The supermarket managers do not seem to use the scanner data for sales analysis or inventory purposes. It is possible the Chinese have installed modern equipment on the assumption that eventually the full potential of this equipment can be realized. Since the Chinese have developed a modern supermarket system in only five years, installing equipment with future potential would seem to be a reasonable practice, given the rapid pace of advancement.

All products are bar-coded, although some stores also put an individual price tag on each item. The price tag and product packaging together would identify the country of origin of the product, the SKU number, the production date, and the expiration date. Most U.S. supermarkets do not always identify the production date.

Most of the customers paid by cash, although a few of the stores allowed credit cards. Plastic bags were the norm, but most customers also brought a canvas bag or equivalent and put the plastic bags of groceries into this bag.

Promotions

Unlike the U.S., Chinese supermarkets do not use coupons, and newspaper circulars are rare. Like the U.S., they do have in-store promotions and will put items on sale which have excessive inventory. Manufacturers also pay to run promotions at stores, and it is common to have manufacturer's representatives in the aisles of a Chinese supermarket. Manufacturers also provide money for banners and contests at stores, and many stores had audio or video commercials playing in their stores. Some stores give cooking demonstrations, especially stores that emphasize imported international foods that may not be familiar to Chinese consumers. Unlike the U.S., there are no scanner-based promotions.

Convenience Stores

There are several large convenience store chains in Shanghai including Kedi, a state-owned chain of 100 stores, and Lawsons, another large chain. None of the convenience store chains owned supermarkets. The convenience stores are almost identical to U.S. convenience stores in terms of store layout, size, and product distribution. Chinese convenience stores do not sell gasoline, however, like U.S. stores.

Conclusions

The Shanghai supermarket chains have done a very good job of replicating U.S. supermarkets in only five years. From outward appearances, the Shanghai supermarkets appear very similar to U.S. supermarkets with the exception of store size. The Shanghai supermarkets are not nearly as sophisticated in promotion or logistics management as a U.S. supermarket, however. Chinese consumers seem to have embraced the concept of a supermarket with little resistance, showing how market efficiencies can overcome consumer habits in a short period of time.

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