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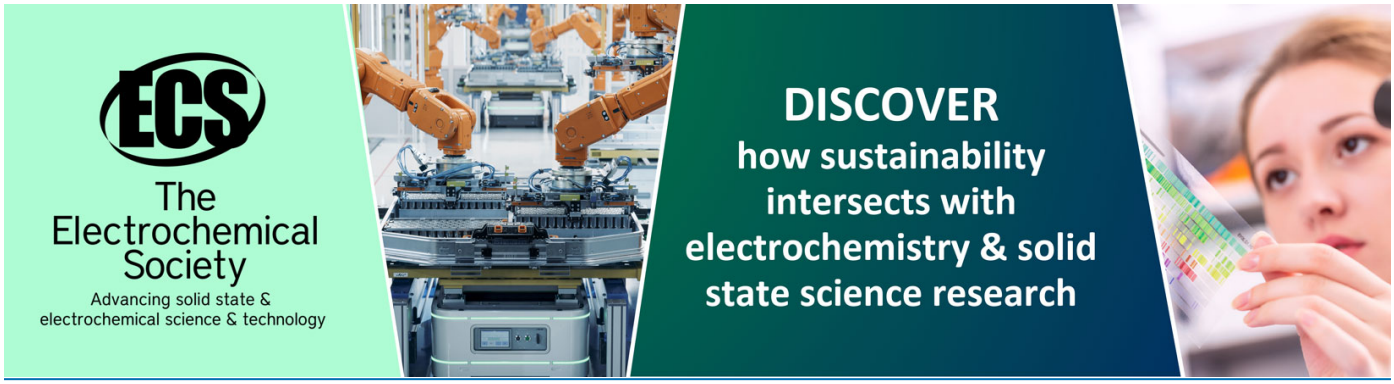

The bottled drinking water market in China: features of sustainable development

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Abstract. This article briefly presents the results of a market research study of the bottled drinking water market in China. The purpose of this study is to describe the overall situation in the Chinese bottled drinking water market, identify sustainable growth and expansion trends, as well as potential opportunities for export of Baikal drinking water through the introduction of domestic (regional) business to the Chinese market. The results of the study can be used to guide foreign business activities in the bottled drinking market and to make effective management decisions.

1. Introduction

The bottled drinking water market is one of the most stable and fastest growing consumer markets in the global economy. One of the priority development areas in the Baikal natural territory is the market for environmental goods and services, and, above all, the market for drinking Baikal water. In order to succeed in this area, it is necessary to explore the opportunities for exporting drinking water to China, the closest neighbour of Buryatia. It represents a promising market, with such favourable factors as: friendly interstate relations, historically established partnerships, rapidly growing clear demand for high-quality drinking water (driven by a growing economy, demographic reasons and a lack of own resources to meet market demand).

2. Models and Methods

In this paper, we examined consumers of drinking water in China as market actors, and their attitudes towards bottled water and manufacturers introducing their product to the Chinese market. We used methods of dialectical cognition, statistical data processing, structural and comparative analysis, as well as methods of graphical interpretation and marketing tools. We also obtained and summarized information from open sources, databases (including our ones), that necessary for this market research. The mineral (bottled) water market in China is highly dynamic, rapidly growing and characterised by frequent changes in the regulatory environment. To establish export of bottled drinking water to China, a comprehensive approach is required, taking into account analysis of competitors, consumer preferences, provinces for potential sales, as well as the trend of this market development in China.

3. Results and Discussion

China is the world's largest market for bottled water with a share of 25% of global consumption. The growth rate of the functional bottled water market slowed in 2016 due to increasing competition from other soft drinks, such as sports drinks with vitamins or juice. In 2018, the Chinese bottled water market was estimated at 154.4 billion yuan. As of 2019, the volume of the Chinese bottled water market reached 48.5 billion litres, with total revenue in 2019 of 166 billion yuan (Table 1).

Table 1. Off-trade bottled water sales by category in 2016-2019 and forecast for 2020-2023 in value terms, million yuan [1].

Category	2016	2017	2018	2019	2020	2021	2022	2023
Carbonated bottled water	909.9	975.9	1,004.1	1,097.0	1,150.8	1,198.7	1,243.0	1,285.3
Bottled water with additives (sugar, sweeteners, or flavourings)	–	–	–	–	–	–	–	–
Functional bottled water	8,970.9	8,835.5	8,808.8	8,623.7	8,528.7	8,485.9	8,511.2	8,604.7
Bottled still water	116,469.9	130,407.0	144,533.4	156,673.0	168,557.5	179,489.2	189,859.4	199,667.8
Total	126,350.7	140,218.3	154,386.3	166,393.7	178,236.9	189,173.8	199,613.6	209,557.8

With a population of over 1.38 billion, China's per capita bottled water sales for 2018 were 40.97 litres (Table 2), which is higher than in Taiwan (19.7 litres), but lower than the global average (43.9 litres), and also lower than the US (129.6 litres), Japan (66.5 litres), South Korea (58 litres) and Hong Kong (55.2 litres).

By 2023, the off-trade bottled water market is forecast to grow by 33.8% in volume and 35.7% in value terms, reaching 54.8 billion litres and 209.6 billion yuan (31.7 billion USD), respectively. The still mineral water segment is expected to grow faster than the market on average.

Table 2. Off-trade bottled water sales by category in 2016-2019 and forecast for 2020-2023 in volume terms, million litres [1].

Category	2016	2017	2018	2019	2020	2021	2022	2023
Carbonated bottled water	69.9	72.3	74.6	77.1	79.6	81.8	83.8	85.7
Bottled water with additives (sugar, sweeteners, or flavourings)	–	–	–	–	–	–	–	–
Functional bottled water	1,325.2	1,296.0	1,283.1	1,289.5	1,306.2	1,327.1	1,352.4	1,382.1
Bottled still water	33,419.2	36,600.0	39,619.6	42,458.3	45,213.2	47,930.2	50,599.7	53,364.7
Total	34,814.3	37,968.3	40,977.3	43,824.9	46,599.0	49,339.1	52,035.8	54,832.5

The Chinese population is increasingly concerned about the quality of tap water, and health risks are driving a willingness to overpay for mineral water, especially with a high concentration of minerals.

A 2018 survey of 30,000 urban residents in 100 Chinese cities showed that 78% of respondents prefer to equip their faucets with a filter and drink purified water. 61% of respondents prefer boiled tap water, 57% – purify tap water using a filter-pot. The number of respondents who preferred bottled water is 51.5% [2]. According to a study by the China Water Supply Services Promotion Alliance, respondents who have stopped drinking tap water, in the first place prefer bottled water (inter alia, large containers and bottles for coolers), and in the second place - water purified by filtration systems (either public or individual) [3].

The following are the largest companies involved in the market:

- China Resources C'Estbon Food & Beverage Shenzhen Co. Ltd.
- Nongfu Spring Co. Ltd.
- Ting Hisin International Group
- Hangzhou Wahaha Group Co. Ltd.
- Coca-Cola China Ltd.
- Robust Guangdong Drinking Water Co. Ltd.
- Blue Sword Drink & Food Holding Co. Ltd.
- Evergrande Spring Group Co.
- Yunnan Dashan Beverage Co. Ltd.
- Nestle China Ltd.
- President Enterprises China Investment Co. Ltd.
- Guangzhou Watson's Food and Beverage Co. Ltd.
- Fujian Dali Foods Group Co. Ltd.
- Danone Premium Brands (Shanghai) Trading Co. Ltd.

Nongfu Spring Co. Ltd. has the largest share of the Chinese bottled water market (11.1% in 2019), followed by China Resources C'Estbon Food & Beverage Shenzhen Co. Ltd. in second place (10.1%) and Ting Hisin International Group in third place with a share of 7.3%.

Table 3. Off-trade shares of national bottled water owners in volume terms in 2015-2019, % [1].

Company	2015	2016	2017	2018	2019
Nongfu Spring Co. Ltd.	7.9	8.3	9.3	10.1	11.1
China Resources C'Estbon Food & Beverage Shenzhen Co. Ltd.	6.7	8.3	9.3	9.8	10.1
Ting Hisin International Group	14.1	10.4	9.0	8.0	7.3
Coca-Cola China Ltd.	5.3	5.2	5.3	5.3	5.3
Hangzhou Wahaha Group Co. Ltd.	7.6	5.9	5.1	4.3	3.9
Shenzhen Ganten Food & Beverage Co. Ltd.	2.3	2.6	2.9	3.2	3.5
Danone (China) Food & Beverage Co. Ltd.	–	–	–	3.1	2.8
Yunnan Dashan Beverage Co. Ltd.	1.3	1.4	1.3	1.3	1.3
Blue Sword Drink & Food Holding Co. Ltd.	1.3	1.4	1.4	1.3	1.3
Evergrande Spring Group Co.	0.6	0.9	1.0	0.9	0.9
Shenzhen Danone Health Beverage Co. Ltd.	1.8	1.7	1.2	0.9	0.7
Nestle China Ltd.	0.6	0.5	0.5	0.5	0.4
Guangzhou Watson's Food and Beverage Co. Ltd.	0.4	0.4	0.3	0.3	0.3
Guangdong Jiaduobao Beverage & Food Co. Ltd.	0.4	0.5	0.4	0.3	0.3
Fujian Dali Foods Group Co. Ltd.	0.4	0.3	0.3	0.2	0.2
President Enterprises China Investment Co. Ltd.	0.1	0.1	0.1	0.2	0.2
Danone Premium Brands Shanghai Trading Co. Ltd.	0.2	0.2	0.2	0.2	0.1
Robust Guangdong Drinking Water Co. Ltd.	5.0	4.9	3.6	0.0	0.0
Other	44.1	47.0	48.9	50.1	50.5
Total	100.0	100.0	100.0	100.0	100.0

At the same time, it is worth noting that the shares of national giants increased over the period 2016-2019: Nongfu Spring from 7.9 to 11.1%; C'Estbon Food & Beverage Shenzhen - from 6.7% to 10.1% (Table 3).

In order to maintain its leading role in the bottled water market in China, Nongfu Spring is taking all measures to create new innovative products, and is also focusing on cross-border cooperation. Nongfu Spring water in glass bottles appeared at the international summit on the New Silk Road Initiative after the G20 conference as drinking water, it helped in creating an image of a high-quality product for Chinese brands' water [4].

To identify the most promising provinces and cities, we carried out an analysis of economic indicators showing the existence of demand, as well as the results of population surveys describing their attitudes towards foreign products.

China's gross domestic product (GDP) per capita in 2018 was recorded at 16,186.8 USD (Figure 1), adjusted for purchasing power parity (PPP). GDP per capita in China is 91% of the global average. The indicator averaged 6,796.4 USD from 1990 to 2018, reaching an all-time high in 2018.

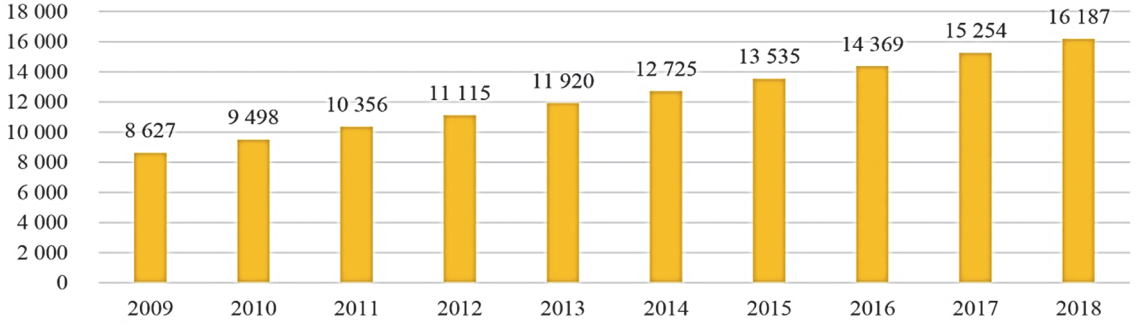

Figure 1. China's GDP per capita adjusted for PPP in 2009-2018, USD [5].

Based on statistics on household food expenditures, the most solvent regions in China include the central cities - Shanghai, Tianjin and Beijing, as well as the provinces of Guangdong and Zhejiang provinces.

Additionally, it is worth noting that Chinese consumers are increasingly interested in imported food products. Thus, according to surveys conducted in 2018, 38% of respondents admitted that over the past few years they have become more likely to buy imported goods. In terms of gender, this percentage was 41% for women and 35% for men. The most active age group interested in foreign products is people aged 31-40 years [6-9].

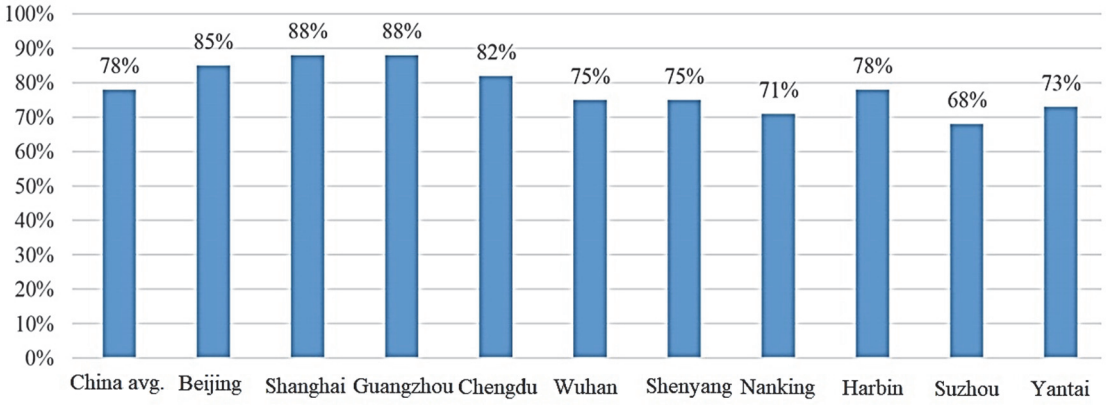

Figure 2. Consumer's willingness to try new imported products [10].

When it comes to the propensity to consume imported goods in terms of the largest Chinese cities, the leaders are Beijing, Guangzhou, Shanghai and Chengdu. The potential willingness to try new imported foods and beverages is highest in Shanghai, Guangzhou, and Beijing (Figure 2).

The share of imports is insignificant compared to domestic production. However, in the medium and long term, the country is likely to face a shortage of clean drinking water. Water quality in China is rapidly deteriorating due to an increase in wastewater discharge, both industrial and domestic, as a result of urbanization. Water scarcity is felt in 400 of the 699 cities, threatening more than 30 million residents with daily water shortages and causing an annual economic loss of more than 14.5 billion USD [4].

To supply water to 1/5 of the world's population, China has only about 6.5% of the planet's renewable water resources at its disposal. It is very difficult for local authorities to find sources of supply of clean, safe water for the population [10-13].

A study of the volume and dynamics of the Chinese bottled drinking water market shows that there has been steady market growth, with still water being the largest segment (94.15% of the market). It is also worth noting that the supply of water in large containers is of particular importance for the Chinese market. Bottled water sales in comparison to similar countries and regions indicates a huge growth potential for bottled water consumption in China in the forecast for 2020-2023 [14].

Analysis of consumer preferences shows a steady increase in the number of consumers who prefer bottled water. As consumers start to pay more attention to their health, they have come to prefer products with maximum benefits. The bottled water consumption is moving towards natural mineral water.

Competitive analysis shows the rapid development of China's own bottled water production. Local brands that are leading players and competing with each other are Nongfu Spring, C'Estbon, and Ganten. Nongfu Spring and C'Estbon always compete for the first two positions. Nongfu focuses more on business diversification, including water in large containers, cooking water, conference water, premium products, and innovative marketing. C'Estbon has become the best brand after Nongfu in the last three years. Ganten has marketed high-quality mineral water in glass bottles.

Analysis of promotion opportunities in PRC provinces shows that if the price of intended product for export is planned to be higher than average price in China, it makes sense to export products to large megacities, such as Shanghai, Beijing, Shenzhen, Tianjin, to present these products in premium stores in the imported goods section. If the exporter has a different goal – to enter the market of bottled water in China and compete with leading companies for customers, then it is worth reducing the cost of water delivering to China, reducing the price, and enter the provinces where the price factor is decisive.

4. Conclusion

Thus, the analysis of the current state and the forecast of the studied market development for 2020-2023 showed a huge potential for growth in consumption and sales of bottled drinking water. The positive dynamics is mainly due to the poor quality of tap water and the mass desire for a healthier lifestyle. The main market trends are likely to remain as follow: steady overall market growth; growth in the number of active consumers and an increase in the number of market brands. At the same time, the bottled water market in China is highly fragmented and localised, with few leading companies holding more than half of the market share. This provides ample opportunities for foreign economic entrepreneurship and for Russian regional companies to enter the Chinese bottled drinking and mineral water market.

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