

**MASTER**

**DESENVOLVIMENTO E COOPERAÇÃO INTERNACIONAL**

**MASTER'S FINAL WORK**

**DISSERTAÇÃO**

**THE CHINESE TEA INDUSTRY UNDER GLOBALIZATION: AN  
ANALYSIS OF THE CURRENT SITUATION AND CHALLENGES**

**SIYU PU**

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## **Abstract**

China is the hometown of tea, and tea industry is a traditional industry with a long history in China. It has a certain importance in China's import and export. However, the competitiveness and position of Chinese tea industry in the international market is continuing to decline due to subjective and objective factors. What are the reasons for the declining status of tea industry from the first in the world? What are the current situation and challenges?

This paper aims to introduce the current situation and characteristics of Chinese tea industry, ascertain the problems faced by Chinese tea industry and the reasons for the decline in competitiveness under the background of globalization and extend from the comprehensive utilization of the tea industry to the global value chain by means of a literature review and qualitative analysis. It puts forward some suggestions for the future development of Chinese tea industry and the enhancement of its international competitiveness, which will help Chinese tea industry to go international and join the tea global value chain.

**Key words:** China, Tea industry, International market, Global value chains

# Table of contents

<b>Acknowledgement</b> .....	<b>1</b>
<b>Abstract</b> .....	<b>2</b>
<b>1. Introduction and central argument</b> .....	<b>4</b>
<b>2. General situation of tea industry in China</b> .....	<b>7</b>
2.1. Historical review of Chinese tea industry.....	7
2.2. Species of tea in China.....	10
<b>3. Analysis of Chinese tea industry</b> .....	<b>12</b>
3.1. Characteristics of China's tea industry.....	12
3.2. SWOT analysis of Chinese e tea industry.....	14
3.3. Analysis on Diamond Model of China's e tea industry.....	17
<b>4. Comprehensive utilization of tea and global value chain</b> .....	<b>20</b>
4.1. Comprehensive utilization of tea.....	21
4.2. Global value chain of tea.....	24
4.3. Well-known tea companies in China.....	25
<b>5. Conclusion</b> .....	<b>27</b>
<b>Reference</b> .....	<b>30</b>

# 1. Introduction and central argument

China is the hometown and a big producer of tea. Tea trade has more than 2000 years of history. It not only affects the development of China, but all tea in the world are directly or indirectly introduced from China. According to the website of China Educational Tours, tea is also important in the economy for employment within China, as more than 80 million people work in the tea industry as farmers, workers, or salespeople. With the continuous promotion of tea culture, countries all over the world have set off an upsurge in tea production and trade, and have launched fierce competition with Chinese tea in the international market. Nevertheless, as a traditional Chinese industry, the international competitiveness of the tea industry has continued to decline in recent years.

Whether a specific industry of a country or a region can become a world's industrial center depends on whether the industry has a competitive advantage. Porter's "Competitive Advantage Theory" summarizes the competitive advantage of the industry into six factors, and the six factors constitute a system that affects the competitive advantage of a country or industry in an integrated manner. Su (2011) and Yan (2012) both said that the low degree of organization of the Chinese tea industry is one of the main factors restricting the competitiveness of the Chinese tea industry. In addition, Su (2011) describes some of the organizational characteristics of Chinese tea industry, such as small-scale operation, externalization of the transaction and the trend of internal transaction.

As for the current situation of declining competitiveness of Chinese tea industry, Table 1 and 2 below show the revealed comparative advantage index of Chinese tea industry from 1995 to 2017<sup>1</sup>. The revealed comparative advantage index is the most convincing indicator to measure the competitiveness of a country's product or industry in the international market. It aims to quantitatively describe the relative export performance of various industries in a country. RCA can reflect the competitive position of a country's services in the world's services. According to the definition of RCA, if  $RCA > 2.5$ , it indicates that the country's service has extremely strong

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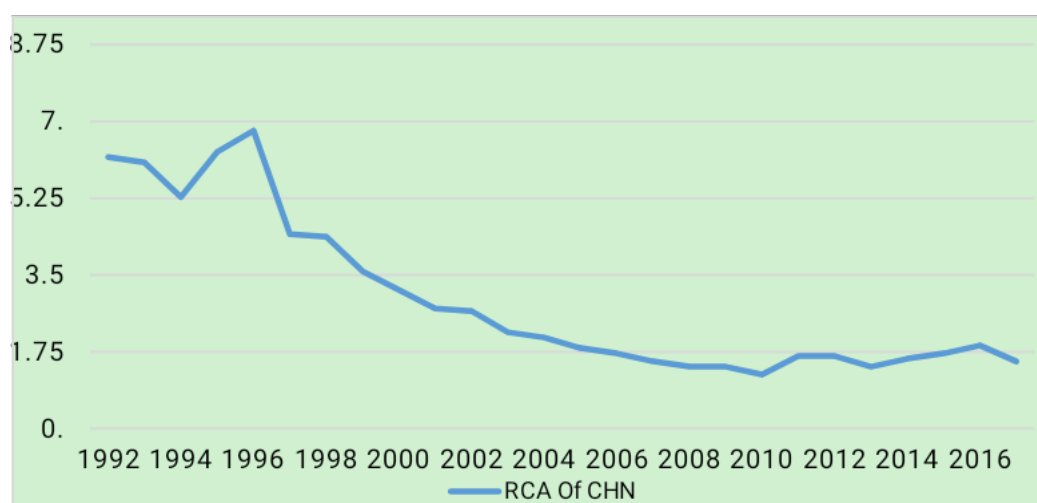
<sup>1</sup> The revealed comparative advantage index refers to the ratio of a country's export value of a certain commodity in its total export value to that of the world's total export value. The data sample for the calculation of the international competitiveness of Chinese tea comes from the WITS (World Integrated Trade Solution) database linked by UN Comtrade (<https://wits.worldbank.org>) When sampling the data, fill in the "reporting country" column with "world"; select "HS88 / 92" product classification standard in the column of "product classification standard and product name"; fill in "global" in the column of "partner country"; fill in "1988-2019" in the column of "year"; fill in the column of "trade flow name" with "total export and total import". Under the version of "HS88 / 92" product classification standard, the data related to China only include 1992-2017. Here I use the version already calculated in *Empirical analysis of the international competitiveness of China's tea industry* by Wang, K. M, Huang, Y, Liu, Z. H.

international competitiveness; if  $1.25 \leq RCA \leq 2.5$ , it indicates that the country's service has relatively strong international competitiveness; if  $0.8 \leq RCA \leq 1.25$ , it indicates that the country's service has moderate international competitiveness; if  $RCA < 0.8$ , it indicates that the country's service competitiveness is weak. The tables reveal that in the 1990s, China's tea exports expanded rapidly due to its superior geographical resources, traditional and exquisite tea making technology and the low cost brought by a large number of employees. Wang, Liu and Huang (2020) indicate that with the improvement of tea quality standards in the international market and the restrictions of various domestic factors, the traditional advantages that Chinese tea industry relies on are gradually weakened, and the RCA shows a downward trend. China's tea export is facing great challenges, and it is urgent to find out the reasons and solutions.

Table 1 Revealed comparative advantage index of Chinese tea industry from 1995 to 2017

Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
RCA Of CHN	6.15	6.02	5.27	6.25	6.78	4.43	4.36	3.57	3.12	2.71	2.64	2.16	2.03	1.79	1.68	1.51	1.37	1.37	1.22	1.64	1.62	1.38	1.59	1.71	1.89	1.49

Table 2 Revealed comparative advantage index of Chinese tea industry from 1995 to 2017



Data source: Table 1 collated



In terms of the status after China's entry into WTO, Rui, Fu and Chen (2009) say that trade liberalization will inevitably impact domestic tea industry. They describe that in the past, due to tariff barriers and trade protection policies, domestic manufacturers had a comparative advantage in the competition of foreign products, so enterprises could survive as long as they could consolidate in the domestic market. However, with the trend of globalization and liberalization, imported products will stand on the same competitive basis as domestic products. The advanced technology, abundant capital and rich international marketing experience of foreign large multinational companies will inevitably affect many domestic products. The industry is under pressure, and if domestic companies fail to enhance their competitiveness, it will be difficult for them to stand in the fierce international competition.

Under the background of globalization, the comprehensive utilization of tea is also an important part of improving the international competitiveness of tea industry. In terms of the utilization and processing of tea, it is not only limited to the original tea, but there are more new consumption growth points such as tea extracts and tea food and medicine. On the basis of the report of Tu (2018), nearly 2 million tons of tea flowers and 6 million tons of tea fruit are not fully utilized each year in China. Under the new situation of the transformation of the tea production and planting industry, how to efficiently use the leaves, flowers and fruits of tea trees is an important task facing the tea industry. Therefore, Gao (2018) express that the comprehensive development and utilization of tea has become the core content of the transformation and upgrading of the modern tea industry. The comprehensive utilization of tea trees can broaden the use of tea, increase the added value of tea, and improve the economic benefits of the tea industry.

Finally, the development of global value chains has brought opportunities and challenges to Chinese tea industry, and participation in the global value chain is an inevitable development trend in the development process of Chinese tea industry. China is the birthplace of the world tea industry, which contains a variety of contents, whether it is the development history of the tea industry or the value connotation it carries, it has advantages. Chen (2019) mention that after tea has grown into a global element, both the value influence of the industry and the market recognition have reached a new level of development. Considering the current development of China's tea industry, there are industrial disadvantages and deficiencies, and it also has certain advantages.

Today's competitive situation is obviously very different from that in the past. Many enterprises

are facing competitors from domestic market to global market, and the scope of competition has also extended from the domestic market to the international market. Shan (2018) explain that in the past, when the competition was concentrated in domestic enterprises and domestic markets, the influence of these factors was not obvious because the industry and national environment faced by enterprises were roughly the same. Nevertheless, Rui, Fu, and Chen (2009) hold the opinion that under the global competition pattern, there were great differences between the industry and the national environment faced by enterprises, and these differences would inevitably affect their competitiveness. Therefore, factors at the industrial and national levels will become extremely important topics when discussing competitiveness. The growth of global value chains has blurred the boundaries between manufacturing, agriculture, industry, and service; and these 'productive sector' activities have many characteristics. They rely on export markets to expand their scale, and depend on the knowledge of managers and workers to improve productivity and quality.

As Page and Tarp suggest:

*With the growth of global value chains, the helping hand has become increasingly important in assisting domestic firms to engage with the multinational lead firms that drive them. Institutional initiatives that establish and support highly competent organizations dedicated to coordinate efforts for industrial diversification and upgrading, efficiency and productivity improvement, and export promotion, are critical to the success of a developing country's industrial policy implementation.*

In: Page & Tarp (2016), p.4.

## **2. General situation of tea industry in China**

As one of the traditional bulk commodities, the transformation and development of tea in the past 40 years since the reform and opening up can be said to be the epitome of the reform and opening up. The production system, circulation system and consumer market have been continuously innovated and developed. Tea has embarked on a road of remembering history and creating the future.

### **2.1. Historical review of Chinese tea industry**

In 1950, when the people's Republic of China was founded, the tea production in mainland China

was only 65200 tons, of which 45600 tons were sold domestically and 19600 tons were sold abroad. In 1977, one year before the reform and opening up, China's tea garden area reached 1.014 million hectares, with a tea output of 252100 tons, which was more than the 234000 tons of tea in 1886, the heyday of China's tea history; by 1985, China's tea garden area was 1044900 hectares, with a tea output of 432300 tons (Baijiao 2020). In 1978, China began to reform and open up, and tea production system also began to reform. Tea farmers were divided into households and ran their own tea plantations. They grew, produced and sold their own tea. As a result, the management of collective tea plantations and state-owned tea farms has been changed, and the enthusiasm of tea farmers has been fully aroused. China's tea production has been greatly developed.

The reform of production system has greatly promoted the production of tea, but the circulation channels of tea under the planned economy have restricted the free circulation of tea commodities. Tea sales areas need to purchase freely in the production areas, and tea production areas need to sell freely in the sales areas. Only when the policy is loosened, can the tea industry embark on the road of independent management.

Chen, Hu and Jiang (2019) indicate that, in 1984, in addition to the mandatory plan for the sale of tea at the border, other domestic and foreign tea sales were completely liberalized, allowing tea farmers to divide tea gardens into households and operate independently; tea merchants could purchase and sell tea freely. The tea monopoly system, which has lasted for thousands of years, has been abolished, and the monopoly of "deliberative tea" has been changed into free circulation. China's tea has gained a new momentum.

Therefore, the circulation of tea became active and gradually entered the market economy, which greatly promoted the development of Chinese tea industry. In 2005, China's tea production reached 935,000 tons, surpassing India, restoring its status as the world's largest tea-producing country. In recent years, China's tea garden area, tea output, tea output value, tea consumption, and employees have all reached the world's first place. In 2006, China's tea export quota system was abolished and the right of tea export management was fully opened. The main body of tea export has grown from a small number of state-owned enterprises to a joint competition between large and small tea companies. (Li, 2018)

After China's entry into WTO, the process of the liberalization of agricultural product trade has been accelerated, which has created a good international environment for China's tea to participate in the international market competition. First of all, China has really entered an open

multilateral trade system. The elimination of non-tariff barriers will help to change the passive situation of single export market and over dependence on a few countries; it is beneficial to reduce the friction and pressure in multilateral and bilateral trade, reduce the cost of tea trade, and obtain the standard channel to solve the problem of tea trade; it is conducive to the development of the global market of China's tea and is conducive to the creation of a fair international trade environment. Secondly, China is a developing country. China's export of tea belongs to labor-intensive products and has a strong international competitiveness in the international trade. (Wu, 2000) Table 3 and 4 show that after China's accession to WTO in 2002, China's tea export has been showing a substantial and stable growth. Taking the data from 1990 to 2005 as an example, the total amount of China's tea import and export from 1990 to 2005 was on the rise.<sup>2</sup>

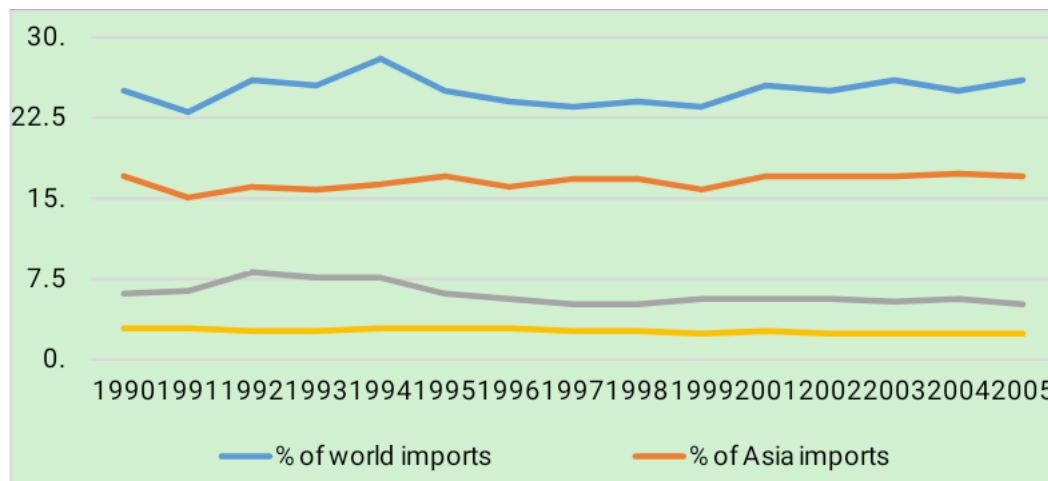
Table 3 Import and Export of the World and China Tea in 1990-2005

	World		Asia		Asia					
	Import (thousand tons)	Export (thousand tons)	Import (thousand tons)	Export (thousand tons)	Import (thousand tons)	% of the world	% of Asia	Import (thousand tons)	% of the world	% of Asia
1990	1065.68	1184.81	384.14	807.17	30.29	2.84	7.89	206.41	17.42	25.57
1991	1187.44	1245.58	440.78	826.00	34.23	2.88	7.77	197.06	15.82	23.86
1992	1164.32	1162.74	399.53	734.02	39.85	3.42	9.97	196.24	16.88	26.73
1993	1219.83	1218.67	403.88	754.20	39.76	3.26	9.34	206.0	16.90	27.32
1994	1123.22	11220.29	378.64	666.62	37.57	3.34	9.92	197.62	17.61	29.65
1995	1205.37	1203.17	385.56	680.58	32.76	2.72	8.50	181.88	15.12	26.72
1996	1237.92	1237.16	439.18	708.33	29.14	2.35	6.64	184.35	14.90	26.03
1997	1297.68	1296.92	437.49	797.92	26.99	2.08	6.17	206.64	15.93	25.90
1998	1403.26	1403.35	509.77	842.95	27.42	1.95	5.38	214.42	15.28	25.44
1999	1365.54	1365.43	507.03	819.37	29.22	2.14	5.76	193.96	14.21	23.67
2000	1445.39	1445.53	554.44	906.97	31.15	2.16	5.62	215.92	14.94	23.31
2001	1456.24	1455.96	554.04	904.74	34.28	2.35	6.19	243.28	16.71	26.89
2002	1452.95	1452.23	555.57	914.38	34.44	2.37	6.20	244.75	16.85	26.77
2003	1507.60	1510.26	559.91	900.42	36.65	2.43	6.55	257.39	17.04	28.59
2004	1550.65	1550.10	634.80	964.57	36.40	2.35	5.73	271.71	17.53	28.17
2005	1640.34	1639.75	639.48	968.97	37.75	2.30	5.90	279.87	17.07	28.88

<sup>2</sup> The following data comes from FAOSTAT. As this section intends to explain the changes of China's tea import and export volume before and after China's accession to the WTO, only part of the data need to be intercepted as an argument. Here I use some data compiled in *Economic Analysis of Tea Industry in China* by Li. D.H.

Data source: FAOSTAT

Table 4 The Change Trend of The Proportion of Tea Trade Quantity in The Global in 1990-2005



Data source: Table 3 collated

## 2.2. Species of tea in China

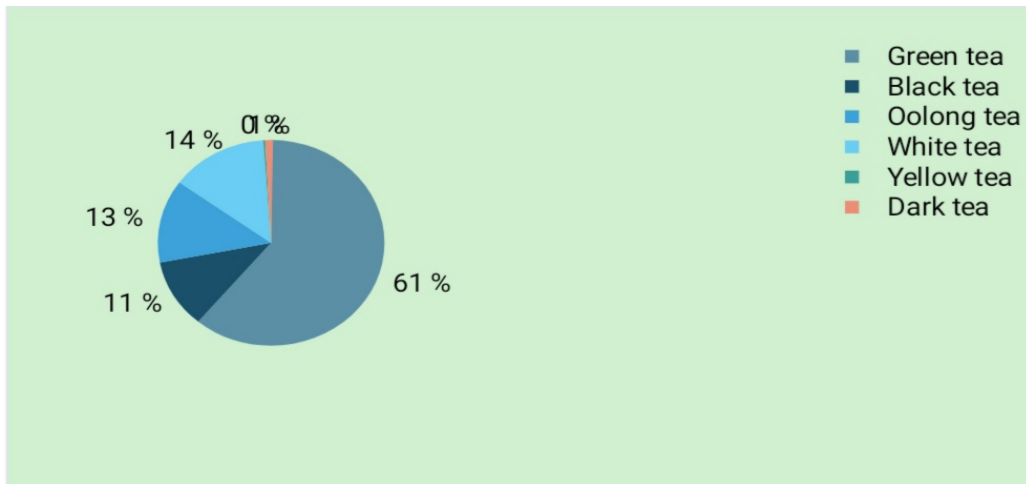
China is the birthplace of all tea species<sup>3</sup>. According to the classification of tea<sup>4</sup>, Chinese tea is divided into green tea, black tea, oolong tea, white tea, yellow tea and dark tea, each with its own processing and brewing methods. At the same time, there is another tea that is independent of the six major tea types: puerh tea. Starting from the least processed to most processed teas, they are white tea, yellow tea, green tea, oolong tea, black tea, and dark tea. Both puerh tea and black tea belong to post-fermented tea, but there are some differences in processing technology<sup>5</sup>. Table 5 shows the proportion of tea production in China.

Table 5 Proportion of Tea Production in China

<sup>3</sup> Information source: <https://www.chinaeducationaltours.com/guide/culture-chinese-tea-history.htm>

<sup>4</sup> Famous Chinese tea expert Chen Chuan put forward the classification method of "six major tea categories" from the systematicness of tea quality and processing method. This classification method is intuitive and clear, and has been recognized by the tea industry all over the world, and is widely used in scientific research, production and trade of tea.

<sup>5</sup> Information source: <https://globaltea.ucdavis.edu/all-about-tea-0>



Data source: China Industrial Information Network

In recent years, the demand of global tea market has continued to grow. Among them, green tea consumption in the Asia-Pacific region has grown strongly, while the black tea market in North America and Western Europe has also matured. According to the statistics, the global tea output in 2017 was about 5.57 million tons, and that in 2018 was 5.77 million tons. Global tea production is growing steadily, and it is expected that by 2020, the production will exceed 6 million tons. Among them, the tea production of China and India ranks first in the world. According to data, the global tea consumption in 2017 was about 5.44 million tons, and the consumption in 2018 was 5.67 million tons. It is estimated that by 2020, the global tea consumption will also exceed 6 million tons<sup>6</sup>.

Table 6 Global Tea Output in 2015-2020



<sup>6</sup> Data source: <http://www.chyxx.com>

Data source: China Industrial Information Network

Table 7 Global Tea Consumption in 2015-2020



Data source: China Industrial Information Network

Tea consumption in the international market is dominated by black tea, supplemented by green tea. The main export markets of black tea are in the former British colonies, while the main export markets of green tea are in the former French colonies. Other types of tea do not have their own special channels and consumption habits.

China's export of tea is mainly green tea. The scale of green tea exports ranks first in the world. It exports to 110 countries and regions, accounting for about 83% of the world's green tea trade. In 2019, the export volume of green tea was 303900 tons, with a year-on-year growth of 0.33%, accounting for 82.92% of the total; the export value of green tea was 1.318 billion US dollars, with a year-on-year growth of 7.77%, accounting for 65.25% of the total. The export proportion of other high-quality tea is low, and the structural imbalance is obvious. The mainstream tea market in the world is black tea, but China's black tea production accounts for a relatively low proportion of only about 10%, and the quantity of black tea that can be used for export is even less. In 2019, the export volume of China's black tea reached 35200 tons, an increase of 6.67% over the same period of 2018, accounting for 9.6% of the total domestic tea export; the export value of black tea reached 349 million US dollars, a year-on-year increase of 24.20%, accounting for 17.3% of the total value of tea export. In 2019, China's black tea import reached 36400 tons, an increase of 23.3% over the same period in 2018, accounting for 83.9% of the total domestic tea import; the import value was 126 million US dollars, a year-on-year increase of 7.07%, accounting for 67.3% of

the total tea import<sup>7</sup>. China's black tea is not only incomparable with major tea-producing countries such as India and Sri Lanka, but also has a lot of gaps compared with emerging tea-producing countries such as Turkey and Vietnam. Its export capacity is low, and its voice in the international market needs to be improved.

### **3. Analysis of Chinese tea industry**

At present, the organization and structure of Chinese tea industry is the result of the double functions of policy and market. Among them, the policies involved include the government monopoly in the 1950s-1970s, the reform of household contract responsibility system in 1979-1985 for collectively owned tea farms, the marketization of domestic tea circulation since 1985, and the overall liberalization of tea export control since December of 1999. (Su, 2011)

#### **3.1. Characteristics of China's tea industry**

Nowadays, the main characteristics of tea industry organization and structure in China can be summarized as follows:

1) Small scale operation of tea garden and "subcontracting" processing of famous and excellent tea.

The small-scale management of tea garden is one of the main characteristics of tea production organization structure in China. Today, although there are some large-scale tea farms or companies, in general, the average operating area of Chinese tea garden shows the characteristics of ultra miniaturization. For example, Sri Lanka is also a big tea producing country with an average household area of 0.4hm<sup>2</sup>. (Su, 2011) According to the statistics of Economic Crop Administration Bureau of Zhejiang Provincial Department of Agriculture, the average household area of tea farmers in China is 0.10-0.15hm<sup>2</sup>, which is much lower than that of Sri Lanka. Xue, Xiong, Li and Tang (2013) conclude in their article that with the smaller scale of tea gardens and the development of famous tea production, the number of self-made tea increased. Since most of the famous tea are picked and processed manually or semi manually, the processing equipment does not require a lot of capital investment. Therefore, the processing of famous tea is often internalized in the operation of farmers. Self-produced small-scale production mode is one of the main characteristics of tea processing in China.

2) The externalization of the transaction between the primary processing of exported tea and

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<sup>7</sup> Data source: <http://www.chyxx.com>



the operation of tea garden

Due to the difficult preservation of fresh leaves, there are moral risks and high transaction costs in the fresh leaf trade fair. Therefore, large-scale fresh leaf producers generally have primary processing plants, that is, the tea farm is generally composed of two parts: the tea garden and the primary processing plant. However, with the small size of the tea garden and the family oriented management, it is uneconomical for each tea farm to have a large primary tea processing plant. Compared with the tea garden management, the primary processing of loose tea has a certain economy of scale. Therefore, with the small scale of the tea garden, many large primary tea processing plants have separated from the tea market and become the main body of the market. (Su, 2011)

### 3) The trend of internal transaction between refined processing and export business

The integration between the refining processing and the export business is reflected in the self-supporting export of the tea export processing enterprises and the industrialization of the export business enterprises. This kind of integration is an organizational system innovation that must be promoted by Chinese tea industry to participate in the international competition. However, before the opening of tea foreign trade management in 1999, the refined processing enterprises could not directly operate the export business. Su (2011) mention that under the arrangement of external transaction system, the response of processing enterprises to the international market is lagging behind, and through integration, the utilization efficiency of market information and the operation performance of the organization can be improved, and this integration will become a trend.

## 3.2. SWOT analysis of Chinese e tea industry

SWOT analysis is an analysis method used to evaluate the strengths, weaknesses, opportunities and threats of an enterprise or industry. Applying SWOT analysis to the research of Chinese tea industry can more accurately analyze and judge the status quo of it and make it develop better in the increasingly fierce industry competition environment.

### 1) Strengths:

a. Good natural resource conditions. China is the birthplace of tea in the world. It has rich tea resources, a complete variety of tea products, and a wide distribution of tea areas. The climatic conditions of the tea areas are suitable and the soil is acidic, which is conducive to the growth of

tea trees.

b. Tea culture with a long history. Tea culture is an important part of Chinese traditional culture. As a national industry, tea can integrate into the world and expand its international market. Some companies have made some attempts in internationalization and achieved certain results. (Yang, 2013) For example, the China-Japan-Korea Tea Culture Exchange Conference in 2010 is the largest tea culture exchange meeting in Asia. Its purpose is to develop tea industry and promote tea economy while exchanging tea culture. According to the recordation of Hangzhou Government Network (<http://www.hangzhou.gov.cn>), in December 2019, the United Nations General Assembly announced that May 21 of each year will be designated as "International Tea Day", which fully reflects the high international recognition of the tea industry and tea culture, and will have a profound impact on promoting the revitalization of tea industry and tea culture. Therefore, the internationalization potential of tea is huge, and the tea industry has a lot of room for development.

c. Product scarcity of high-grade tea. Moderate scarcity is an important feature of high-grade tea. In recent years, the production of high-grade tea in China has developed rapidly. The number of famous and high-quality tea is the largest in the world, reaching more than 1200 kinds. But at the same time, due to the limitation of objective factors such as process, output or production area, it is difficult to expand production in a large amount in the short term, which brings the possibility of product scarcity. Because consumers are not sensitive to the price of high-grade tea, high-grade tea has a better ability to raise price, and has a better anti-risk ability in the period of economic fluctuation. (Yan, 2012)

## 2) Weaknesses:

a. Low production efficiency. China's tea planting area and output rank first in the world, but the unit output has always been at the lowest level, the cost of tea production is high, and the efficiency of tea production is low. The lack of effective labor force in tea industry, scattered planting, and also the backward production, management and technology are not conducive to the improvement of tea production efficiency in China. In addition, China's tea consumption is mainly domestic, and the pressure of export is increasing. (Yan, 2012)

b. Single variety of exported tea. China's tea production and export volume are in the forefront of the world, but its export is mainly green tea, while the export volume of black tea and other types of tea is far lower than that of green tea. In a report in China Business Intelligence Network (<https://www.askci.com>), in recent years, China's tea export volume is on the rise, but the main increase is due to the increase in the export volume of green tea. Therefore, China's tea export can not fully meet the development of global consumer demand.

c. Lack of international brands. The current tea industry in China is still in the pre-brand era, and only the taste is used to determine the value of tea, so it has not really entered the brand era. Without brand tea, Chinese tea industry will not be able to enter the operation stage of branding and capitalization, and it is difficult to obtain international market share and obtain position in the international market.

d. Inadequate government supervision. China's major tea producing areas have gradually established a tea quality and safety supervision system, which not only establishes the norms of tea production inputs, processing and operation, but also but also continuously and scientifically improves the tea quality and safety inspection index system. Yet, in the process of implementation, the government did not achieve full supervision, leading to the quality and safety risks of tea products in China. Chinese tea industry is coordinated and managed by multiple departments. Although the functions are clear, there is a situation of repeated management or no supervision in the implementation process. In addition, the current testing standards in China's tea market are diversified, and there is a certain gap with European Union and Japanese standards, so that product quality testing is not convincing enough, which affects consumers' choice of products. (Chen, & Sun, & Li, 2018)

### 3) Opportunities:

a. Economic globalization. After China's entry into WTO, the trade of agricultural products will be relatively liberalized, and permanent unconditional MFN (most-favored-nation) treatment and non discriminatory treatment will be obtained, especially the treatments for developing countries. This reduces the unfair treatment of other countries on China's tea export such as non-tariff barriers, which is conducive to the diversification of export market. Under the background of economic globalization, foreign capital and technology can be introduced to improve product quality and expand exports.

b. Great potential of China's domestic consumption. Since the reform and opening up, China's

national economy has maintained a good growth trend, the level of residents' consumption has risen significantly, and the demand for consumer products such as tea has increased.

c. Fine policy environment. In order to accelerate the development of tea industry, China has issued a series of policies and regulations. For example, in 2016, the Ministry of Agriculture issued the "Opinions on Seizing Opportunities to Strengthen the Tea Industry", which made an overall plan for the development of the tea industry in the next five years. The traditional tea industry has begun to improve the quality and efficiency<sup>8</sup>. The No. 1 document of The State Council of the People's Republic of China (<http://www.gov.cn>) show that in 2019, the tea industry, as a rural characteristic industry in China, was once again mentioned by the central government. The document takes "tea", "fruit" and "vegetable" as one of the rural characteristic industries in China, encourages its development, and emphasizes on improving the product quality standard system, strengthening the protection of trademarks, and supporting the creation of brands. This will bring unprecedented development opportunities to the brand, scale and standardization of the tea industry and will also point out the way and direction for the next stage of Chinese tea industry to improve the quality, efficiency and transformation development.

d. Promotion of tea health benefits. Modern science has proven the health benefits of tea. With the improvement of people's living standards, people begin to pay more attention to their own health problems, and the consumption demand of tea is gradually developing towards health care. While the popularity of tea itself has not waned, people's habits and preferences have been changing. Health conscious people are becoming more aware of the health benefits of particular teas, but also loose-leaf teas are beginning to take root in places where tea bags were previously the most popular form of the beverage. There is more interest in specialty teas, and people are willing to pay more for a quality tea. China has the largest variety of tea in the world, with different tastes and effects, and drinkers can choose the tea that suits their health.

#### 4) Threats:

a. Concentrated market distribution. China's tea import and export regions are widely distributed, but the concentration of the import and export market is always on the high side. The high concentration of market can lead to the increase of trade risk. In 2019, China imported more than 50% of tea from Sri Lanka and India, and exported more than 40% of tea to Morocco and Hong Kong<sup>9</sup>. In this case, when the tea products of the main source countries are affected by natural,

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<sup>8</sup> Information source: [www.xinhuanet.com](http://www.xinhuanet.com)

<sup>9</sup> Data source: [www.puer.cn](http://www.puer.cn)

economic or political factors, resulting in the decrease of quantity and quality of products, the tea trade is not only difficult to meet the import demand, but also the safety level of tea will decline. High concentration of export market will make China's tea export highly dependent on some national or regional markets, which will also increase trade risks. When the main selling country (region) drops the scale of tea imports from China due to some unavoidable reasons, because it is unlikely to find an export market with equivalent demand in a short period of time, Chinese tea industry will face huge sales pressure and even suffer a lot of losses.

b. The great impact of the international market. At present, the benefit of tea industry in China is low, and the growth potential of output value is limited. In order to maintain the growth rate of output value of tea industry in the future, in addition to increasing the unit output, it is necessary to start from the research, development, processing, brand publicity and tea culture construction of new products. However, Chinese tea industry is in a backward position in the competition with other countries due to the serious convergence, lack of innovation awareness, and single product types. Therefore, it is greatly impacted by the international market. For example, the world's number one tea beverage brand is recognized as Lipton. After entering China, Lipton has occupied nearly 80% of the market share. By purchasing tea in China and then packaging and selling, Lipton greatly occupying the natural resources of Chinese tea and earning the highest profit in the industry through processing. At the same time, Lipton's advanced processing technology and strong R&D team make it difficult for China's small and medium-sized tea companies to compete with it. (Yang, 2013)

c. Overcapacity. At present, the national tea market generally presents a situation of oversupply, while the area of tea garden is still increasing. Therefore, the sustainable development of Chinese tea industry is facing the threat of overcapacity and the product market risk is increasing.

d. Alternatives from other drinks. According to the data of the National Bureau of statistics, the proportion of alcohol and other types of drinks in the consumption of residents is gradually increasing. In addition, the cultivation of high-end market by alcohol has brought more and more challenges to China's tea companies. Other beverages continue to cultivate young consumer groups, which also has an impact on tea companies.

### **3.3. Analysis on Diamond Model of China's e tea industry**

The "Diamond Model" constructed by Porter is a model used to analyze how a country or

industry forms an overall advantage, and therefore has a strong international competitiveness. This model includes the four direct factors of factor conditions, demand conditions, related and supporting industries, firm strategy, structure, and rivalry, and two indirect factors, the role of government and chance. In practical economic analysis, this model has been more and more used to analyze the international competitiveness of different industries.

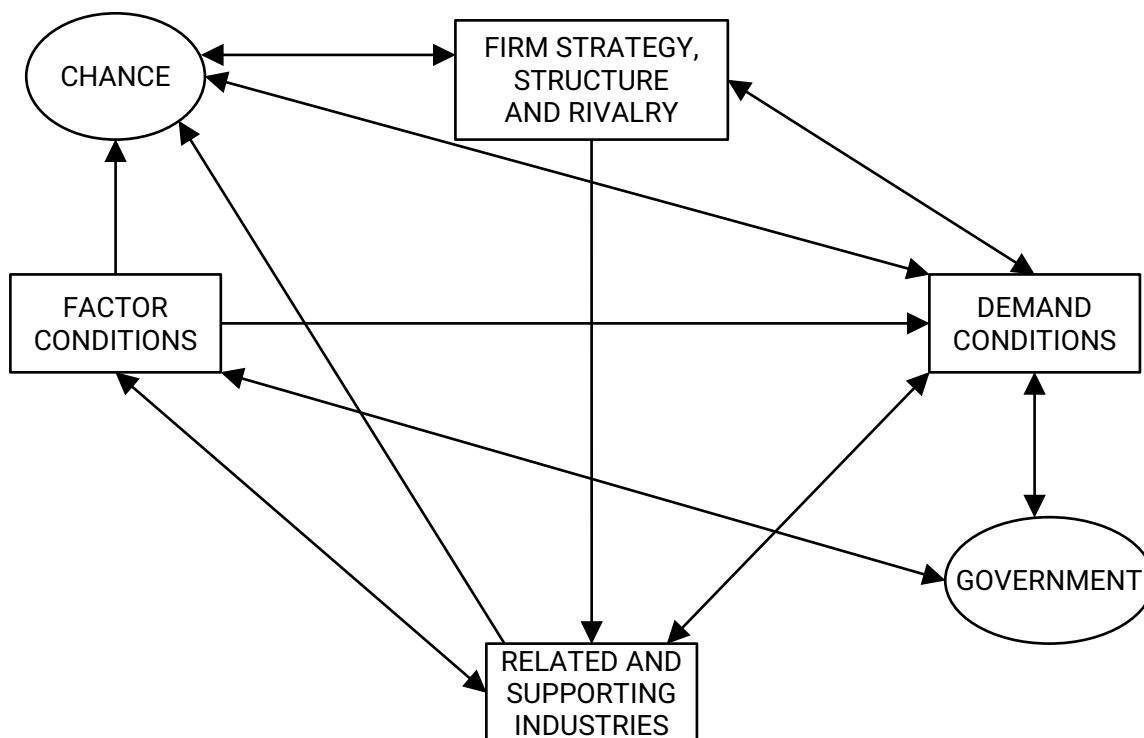


Fig 1. Porter's Diamond Model

By using this model, the reasons for the decline in the international competitiveness of Chinese tea industry can be analyzed as follows:

1) Factor conditions

The tea industry is a labor and land-intensive industry, and land resources and labor resources are particularly important in its production. China has a lot of land for tea cultivation, but the main body of tea production is still small tea farmers, and tea merchants or large tea farmers are less involved in tea planting and production. Due to the limitations of capital and technology, the production methods of tea farmers are traditional and single, and the production efficiency is low. In the report of Gao (2018), China's tea garden area accounts for about 50% of the world's tea garden area, but its output accounts for about 30%. Among the top eight tea producing countries

in the world (China, India, Sri Lanka, Kenya, Indonesia, Vietnam, Japan and Turkey), the yield per unit area is the lowest (they are about 1.5-2.6 times higher than that of China). In addition, China does not have a high degree of mechanization in tea picking. Tea picking mainly relies on manual picking, and the picking work is heavy. Moreover, tea planting is seasonal. Due to untimely picking, a large number of tea wastes are produced almost every year in China. In terms of tea processing, there are few large-scale or unified tea processing factories in China's key tea-producing areas. Small-scale tea factories are difficult to achieve refined processing due to equipment limitations, and most of the tea is directly exported in the form of raw tea. The low technology of the tea factory will directly affect the taste and quality of tea.

To sum up, because of the limitation of manpower, technology and equipment, the quality of tea is not good, so it has no advantage in the competition of export price.

## 2) Demand conditions

The consumption demand of tea is affected by factors such as economic development level, income level and preference of consumer. Modern scientific research has confirmed the various functions of tea. Therefore, with the rapid development of modern economy and the increase of people's income, the consumption demand of tea is on the rise, especially in developed countries. However, the current tea industry in China is limited by production equipment, technology and environment, resulting in tea quality or hygiene problems, and tea is a beverage with many alternatives. This series of problems caused Chinese tea drinks to be replaced easily by other drinks with high quality and low price.

## 3) Related and supporting industries

The fact that the related and auxiliary industries of a specific industry have international competitiveness is of great significance to enhance the international competitiveness of the industry. The tea industry is an industrial chain integrating production, processing and sales. There are many related industries, such as manufacturing, logistics, advertising, tourism and so on. The manufacturing industry is related to the picking and processing machines of tea, the logistics industry is related to the sales of tea, the advertising industry is related to the promotion of tea products, and the tourism industry is related to the promotion of tea culture. However, at present, the cooperation system between tea industry and related industries is not perfect, each industry is more like an independent individual, lack of industry cooperation consciousness, lack of relevant industry support, and the ability of tea industry to explore the market is also limited. (Gao, 2018)

#### 4) Firm strategy, structure, and rivalry

On the one hand, the market competition of tea industry in China lacks order. Although there are a large number of tea companies in China, but there is a lack of leading companies, and the organizational structure of small-scale tea companies is not perfect. A department may have to take into account the production, processing and sales of tea at the same time, so it is difficult to coordinate the internal and external relations. The influence of multiple internal factors makes tea companies lack of competitiveness in the market, resulting in inefficient competition. There has been an increasing number of tea exporters who have been engaged in a price war, and lack the money to be engaged in promotions overseas. On the other hand, Chinese tea industry lacks brand effect. There are many kinds of tea in China, and China has 70,000 tea companies in all, but not a single internationally strong brand<sup>10</sup>.

#### 5) role of government

In recent years, the government has increased the support for tea industry. However, in terms of funds, the government investment is insufficient, and the infrastructure of tea production has not been effectively improved; in terms of policy system, there are few policies to promote the development of tea industry, the policies are not pertinent, the guidance is not clear, and the binding force of the system is not enough; in terms of supervision, the joint supervision of multiple departments will cause a waste of government resources, an unclear division of labor of departments and an inadequate supervision. (Chen, & Sun, & Li, 2018)

#### 6) Chance

The tea industry, as China's traditional advantageous industry, has its unique resource conditions. However, due to the obsolete production equipment, backward technology, loose organization and disordered market competition, it is difficult to reach the level of modern industry, which weakens its development and competitive advantages to a certain extent, so it has lost more development opportunities compared with emerging industries.

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<sup>10</sup> Data source: <https://www.chinaeducationaltours.com/guide/culture-chinese-tea-history.htm>



## 4. Comprehensive utilization of tea and global value chains

### 4.1. Comprehensive utilization of tea

The tea industry consists of a series of related industries such as tea planting, production, and sales. At present, the basic characteristics of the organizational structure of Chinese tea industry are shown in Figure 2. Among them, loose tea and refined tea are the traditional ways of tea utilization, which are also the oldest. In recent years, with the rapid development of science and technology, people's consumption choices tend to be diversified. A large number of tea deep-processing products, such as instant tea, tea beverage, food, medicine, daily chemicals and so on, have become new consumption growth points.

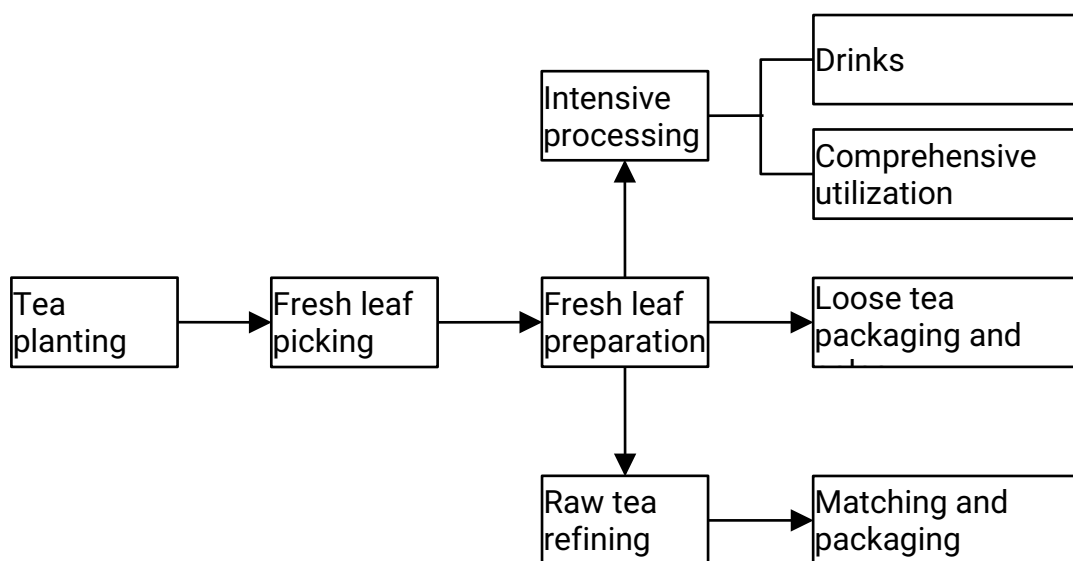


Fig 2. Organizational structure of Chinese tea industry<sup>11</sup>

The multi-directional utilization of tea plants is the core content of the transformation and upgrading of Chinese tea industry in the new century. The transformation and upgrading of tea industry is the transformation from the existing tea business model to a newer, more scientific and more efficient business organization mode. Therefore, how to make full use of the leaves,

<sup>11</sup> This figure refers to the model in *Organization of Chinese Tea Industry: Performance and Policy* by Su, Z.C (2011).

flowers and fruits of tea plants is one of the important tasks facing the tea industry. So far, more than 1400 kinds of tea compounds have been found. At the same time, after the discovery of tea chemical active substances, how to use the corresponding physical, chemical and biological technologies to produce products containing tea extracts that help improve people's lives as well as give full play to the functional ingredients in tea, is also the significance of tea comprehensive utilization. The comprehensive utilization of tea updates the processing methods and product structure of the traditional tea industry, broadens the use of tea resources, increases the added value of tea, and improves the economic benefits of the tea industry.

First, let's review the development history of global solid and liquid tea drinks. Solid instant tea was first developed by the UK in 1940s. It has become an important tea beverage product in the international market. At present, Nestle, Lipton, Tanco, Southern, Telly and other companies all produce instant tea powder. The production of solid instant tea in mainland China began in the 1970s, and it was not until the mid to late 1990s that the production, sales and technical level were significantly improved. The development history of global liquid tea beverages is relatively later than that of solid beverages. The liquid tea beverages with industrial production scale first appeared in the American market in the 1970s. It mainly used instant tea or concentrated juice and spices as raw materials to develop and produce bottled or canned ice tea drinks. In the early 1980s, Japan first developed the canned oolong tea beverages, which became the milestone of modern liquid pure tea beverages, and the production and sales got rapid and sustained growth. Subsequently, canned tea beverages gradually developed in Southeast Asia, Europe and the United States. Tu (2018) indicates that the development and production of liquid tea beverage in China began in the early 1980s. In 1985, the Tea Research Institute of Chinese Academy of Agricultural Sciences trial-produced bottled tea drinks with various flavors, such as tea cola, orange tea and peach tea. Since 2001, China's domestic tea beverage consumption has increased steadily, reaching a historical highest level, with an annual consumption of about 8 million tons, forming a tea beverage market with large enterprises such as Master Kong, Uni-president, WAHAHA and NONGFU Spring as the main producers. Tea drinks with the characteristics of natural, fast, convenient and healthy have become a new kind of soft drinks that are quite popular among consumers and have broad development prospects. In recent years, Europe, the United States, South Korea and China have entered the stage of development and production of a new generation of pure tea drinks and health tea drinks. Tea drinks with health care function are gradually favored by consumers and become a new popular trend.

Comprehensive utilization of tea involves complex knowledge structure, such as chemical

engineering, food processing, biochemistry, medicine and nutrition, and can be applied to many industries such as food, feed, daily chemical and medicine. After nearly 20 years of development of tea deep processing industry in China, the separation and discovery of natural active ingredients have made great progress in tea utilization. The functional components of tea have the functions of anti-oxidation and improving immunity. Another important tea plant resource is tea seed oil. Tea seed oil is a kind of high-grade edible oil with high nutritional value. The content of its functional components is much higher than that of traditional food oils such as peanut oil and soybean oil. Figure 3 below shows the comprehensive extraction route of tea.

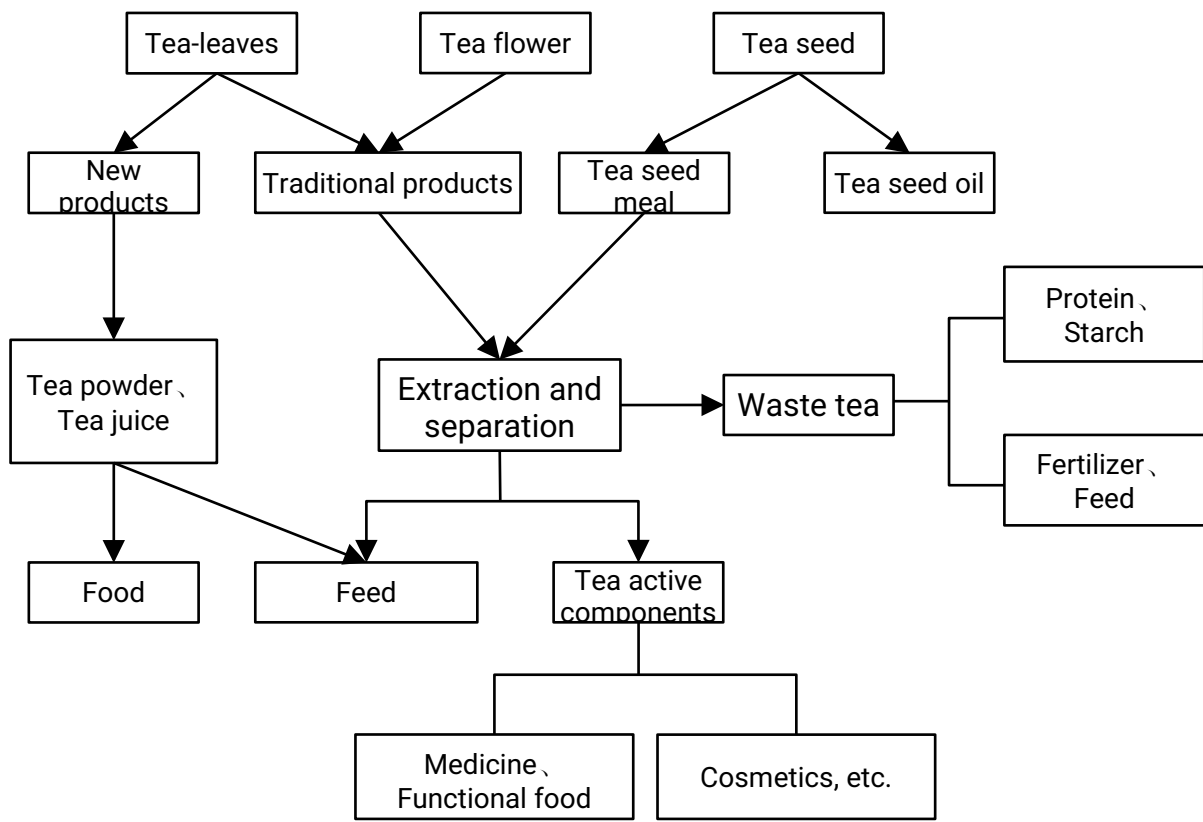


Fig 3. Comprehensive extraction route of tea<sup>12</sup>

Tea polyphenols are the main chemical components with health-care functions in tea. In terms of food, tea polyphenols compounds can be used as food preservatives and added to various oil-containing foods to exert their antioxidant function. Using fresh leaves to process tea powder, the emerald green color and ingredients can be used as natural pigments and functional enhancers. Especially in recent years, the growth of matcha has exceeded the previous total. (Tu, 2018)

<sup>12</sup> This figure refers to the model in *Current Situation and Future of Tea Comprehensive Utilization Industry* by Tu, Y. Y (2018).

In the field of daily chemicals, adding tea polyphenol compounds to the cotton fabric of underwear, socks, and shoes can kill bacteria and eliminate odor; placing a tea polyphenol filter at the outlet and inlet of cars and air conditioners can absorb odors and pollutants; tea masks can filter air impurities and reduce the harm of haze to humans and animals. Tea has a significant moisturizing effect, tea polyphenols is a good moisturizer. Tea polyphenols also have the effect of radiation protection. Adding tea polyphenols or white tea extract to sunscreen can reduce the radiation damage of ultraviolet rays to skin. At present, the daily chemical products developed from tea polyphenols include facial cleansers, toners, lotions, creams, body washes, shampoos, toothpastes, chewing gums, deodorants, etc. There are many famous international brands such as Elizabeth Arden, shu uemura and h2o+ which have products with added tea polyphenols. (Tu, 2018)

In medicine and other fields, there are medicines like Veregen and other health products on the market. Combining the extraction and separation of active components from the tea plant with medical research will develop more products beneficial to human health. Using tea active components and waste tea as feed additives can improve animal immunity and reduce the emission of odor substances.

However, the comprehensive utilization and deep processing of tea are relatively low in China. In Japan, the consumption of deep-processed products such as tea beverages and tea foods has reached 40%, and there are hundreds of tea food products. There are abundant deep-processing products in food, medicine, chemical industry, tourism, etc., while only 5% of tea in China is used for comprehensive utilization and deep processing.

#### **4.2. The global value chain of tea**

A global value chain (GVC) refers to a global inter-enterprise network organizational pattern that connects the processes of production, sales and recycling to realize the value of goods or services, involving the whole process from raw material procurement and transportation, production and distribution of semi-finished products and finished products, to final consumption and recycling. It includes the organization of all participants, production and sales activities, as well as their value and profit distribution. At present, enterprises in the global value chain are carrying out various value-added activities such as design, product development, production and manufacturing, marketing, delivery, consumption, after-sales service, and final recycling.

Under the background of value chains, the interpretation is not only a kind of cooperation, but also a reasonable division of labor based on the maximization of value. For tea products, Shan

(2018) signifies its global value chain has actually extended to the whole process of tea product service trade activities, including the scientific research and design of tea product services, the selection and coordination of tea product service activities, and even the production and marketing of tea product trade activities. It can be said that the entire value chain has gone through many links in domestic and foreign trade activities during the construction process. These links as a whole constitute the industrial chain related to the trade of tea products and services, and each link has formed its own characteristic value and formed its own profit and benefit distribution mechanism, and this has an important impact on the specific division of tea products service trade, and even international investment and trade activities.

In the wake of the development of economic globalization, the degree of economic liberalization and trade liberalization continues to deepen. Under this background, the pattern of world trade and international division of labor have changed significantly, and Chinese tea industry has stepped into the division of labor in the global value chain from the division of labor among industries. Tea companies are an important subject for the Chinese tea industry to integrate and participate into the global value chain, and to develop international competition. The influence and status of Chinese tea industry in the global value chain depends on the international market influence and competitiveness of Chinese tea enterprises.

With the development of Chinese tea industry, Chen (2018) has a opinion that the industry has shown obvious advantages in terms of controlling the demand of domestic consumer groups and also, in terms of the innovation in marketing services. At the same time, abundant labor force and complete industrial processing and manufacturing have become important features of the current Chinese tea industry in promoting its own global value chain. However, the equipment innovation level and product innovation level of tea processing and product development in China also show obvious shortcomings, which need to be improved.

Chen (2018) also shows that from the perspective of resource integration and industry strength of the entire tea industry, there are many problems in Chinese tea industry. First, there is a general lack of brand awareness, the recognition of tea products is not high, and has failed to form a brand with international competitiveness. Second, the current tea industry has failed to form a full integration of development resources within the industry, and many tea companies blindly compete with each other. The third is that tea companies in China have failed to form a consistent understanding of resource sharing and common development, and there are a series of problems such as technical barriers and insufficient trade complementarity.

At the same time, in the development of Chinese tea industry, although tea farmers are the most basic subject, they are in the most vulnerable position in the tea industry chain. The degree of organization of tea planting and tea production is not high enough. Tea farmers' organizations and tea companies have not yet formed a community of interests, so they can not share the profits and risks of tea industry chain well. (Chen, & Sun, & Li, 2018)

### **4.3. Well-known tea companies in China**

In fact, there are many outstanding tea enterprises in China, such as China Tea Co., Ltd. and Bama Tea Co., Ltd.. However, from the perspective of the global market, whether in terms of market coverage, corporate brand influence, or from the ability of these enterprises to guide the development trend of international tea products, these companies still show obvious deficiencies, therefore, cultivating excellent multinational enterprises is of great significance to the development of the tea industry from the perspective of global value chains.

#### 1) China Tea Co., Ltd (company limited by shares)

China Tea Co., Ltd. is a member company of COFCO Corporation (COFCO), one of the world's top 500 companies. It is headquartered in Beijing and was restructured and established by the former China Tea Import and Export Corporation. Its predecessor was established in November 1949, and was the earliest national professional company established in the People's Republic of China. At present, the company mainly deals in the import and export and domestic sales of various commodities such as tea, coffee, cocoa, etc., and has many wholly-owned or holding enterprises. The company integrates tea planting, production, processing, research, development, sales and cultural promotion. It has established a number of large and medium-sized production enterprises and raw material bases in Fujian, Yunnan, Guangxi, Hunan, Zhejiang and other places, and is one of the important enterprises in China's tea industry. Through the operation mode of "company + supplier + farmer", China Tea Co., Ltd. has established tea garden bases as well as production and processing bases in many famous tea producing areas, controlling high-quality tea resources, radiating and driving the safe production of tea by surrounding suppliers and tea farmers. China Tea Co., Ltd. has a rich product system, covering high-quality tea resources and all kinds of tea in China's top ten producing areas and important tea producing countries in the world. Among them, green tea and oolong tea occupy a leading position in the world market.

#### 2) Bama Tea Co., Ltd.

Bama Tea Co., Ltd. is a tea enterprise integrating tea garden base, production, processing, chain operation and export. It operates a series of products such as oolong tea, green tea, black tea, puerh tea, tea set, tea food, etc. The company has set up ten tea bases with six major tea categories in China, extended its planting and production experience to various tea-producing regions in China, and managed it with its own standard system. At present, Bama has formed a chain from tea planting and processing to logistics, sales and management. There are more than 30 standardization systems, and more than 110 unified standards have been standardized in the service field.

In short, under the background of global value chain development, Chinese tea industry needs to gradually participate in the global value chain by cultivating excellent enterprises, improving innovation ability, and carrying out advanced theoretical and technological research, then gradually enhance its own status and influence in the global value chain.

## 5. Conclusion

As one of the main agricultural products for export, tea plays an important role in the international trade of China's agricultural products and has made great contributions to the development of the international market. The proposal of the "Belt and Road" strategy and the continuous upsurge of tea culture have brought new opportunities for the development and revitalization of Chinese tea industry. Under the trend of economic globalization, the development of the tea industry should pay more attention to international competitiveness. However, compared with other major tea producing countries in the world, Chinese tea industry is still large but not strong. In the increasingly fierce competition of international tea industry market, how to further expand Chinese tea industry market share and enhance international competitiveness is particularly urgent. Consequently, the government and enterprises should coordinate the relationship between the two sides, deepen the reform of tea industry, and formulate relevant measures from various aspects.

In the context of global value chain and globalization, the division of labor and cooperation in professional fields has become a universal consensus. Each enterprise takes advantage of its own advantages and participates in development activities in an industry-specific model. In fact, people's consumption concepts are more objective and diverse nowadays. In addition to the diversification of tea-drinking elements, people have extremely high value expectations for culture, aesthetics and emotions and many other contents. At present, when the public participates in the

trade of tea products and services, it is no longer a tea-drinking activity in the traditional sense. The content related to tea is becoming more and more diversified, such as tea culture tourism activities related to leisure and health preservation, tea art performance activities related to popular art aesthetics. These can become important content in the process of the current tea culture display, and it makes the direction of the optimization of the tea industry structure diversified. (Chen, 2018)

From the perspective of tea companies, first, Chinese tea companies need to strengthen their connections with related industries, through the continuous extension of their own industrial chain, to realize a coordinated improvement of their influence and status in the global value chain. For example, Chinese tea enterprises can not only base on the purchase, processing, production, packaging and sales of tea, but also cooperate with chemical fertilizer enterprises closely related to tea planting, processing equipment manufacturing enterprises closely related to tea processing, production and packaging, and foreign trade enterprises closely related to tea sales and brand building, and through the development of tea food, tea drinks and other products closely related to the tea industry, they can achieve the continuous extension of its own industrial chain. Tea enterprises can also enhance the value cognition of tea products through specific tea culture history display, and provide the possibility for the public to understand the development process of tea culture.

Second, tea enterprises should actively attract and increase foreign investment, so as to optimize the service trade mechanism of tea products, optimize the export mechanism of trade activities, and realize the steady expansion of tea product trade by cultivating new growth factors of tea trade.

Third, it is necessary to pay attention to the research of frontier theory and technology. Like what Gao (2018) indicate in her reviews, with the development of information technology and Internet technology, e-commerce, big data, and artificial intelligence are playing more and more important roles in all fields of society, and promoting the integration of these technologies and the development of tea industry in China is of great significance to enhance the influence and competitiveness of Chinese tea industry. For this reason, in the development of Chinese tea industry, it is necessary to pay attention to the frontier science and technology, and carry out theoretical research and technical research on the integration of tea industry and the technology.

From the government point of view, the Chinese government needs to pay attention to improving the organization of tea planting and tea production, so as to provide guarantees for the



improvement of tea quality in the tea planting, picking, and processing links, and in turn, the improvement of internal and external competitiveness of Chinese tea industry will be provided a good foundation. Thus, the government should provide support for the construction of tea farmers' cooperatives in terms of funds and management, and promote the safe, standardized, high-quality and large-scale development of tea planting and tea production on the basis of doing a good job in tea farmers' technical training. (Chen, & Sun, & Li, 2018)

At the same time, the government should do a good job in attracting investment in tea industry. In this process, Chinese government departments should not only strengthen policy investment, promote the transformation of industrial projects, but also select well-known enterprises with strong strength to participate in related project investment activities. By accelerating the implementation of preferential policies, the government can enhance the attractiveness of tea industry projects, thereby providing a good policy environment for the development of Chinese tea industry and providing financial support for the adjustment of Chinese tea industry structure.

In a word, on the basis of finding out the defects and clarifying the development direction, Chinese tea industry practitioners need to fully understand the opportunities and challenges brought by the global value chain for the tea industry, and the Chinese government departments also need to do a good top-level design for the development and the structural adjustment of Chinese tea industry, so as to continuously optimize the industrial chain of Chinese tea industry based on the global layout.

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