

Research on International Competitiveness of Chinese Display Industry Based on Improved Porter Model

Jun Zhuo¹, Jun Wang¹, Xiaolei Wang² and Sanpeng Gan²

¹ Zhejiang University, Zhejiang 310058

² Hefei Xinsheng Photoelectric Technology Co. LTD, Anhui 230000

Keywords: Porter's Diamond Model; Improvement; Chinese Display Industry; International Competitiveness

Abstract: At present, the display industry in our country has taken a big step forward under the promotion of economy. The display industry of China has completed the transformation from the traditional screen to the current liquid crystal display (LCD) screen. In this context, improving the international competitiveness of display industry can help improve the technology of Chinese display industry, and it also promotes the development of display industry. The author first expounds the Porter's Diamond Model and the improved Porter Model, then analyzes the current situation of the display industry, and finally makes suggestions on improving the international competitiveness of Chinese display industry under the improved Porter Model.

Introduction

Liquid crystal was first discovered at the end of 19th century. Its biggest feature is that it is turbid or transparent due to the different temperature. During 1960-1970, scientists and entrepreneurs promoted the transformation of liquid crystal and successfully prepared the LCD mode by using liquid crystal in display technology. The development strategy of "The belt, the road" helps many industries in our country to open up overseas markets. Chinese display industry also wants to make contribution to "made in China" under the great background. The display technology of Japan and South Korea in Asia is relatively mature, and famous brands such as LG, Samsung, Sharp and Toshiba are also popular among the people. However, the display industry in China has risen rapidly now, and are represented by BOE. The assets, profits, output, and technical level of BOE are the first in China, and its shipping volume is the first in the world.

1. Explanation of Porter's Diamond Model and the Improved Porter Model

The Diamond Model was put forward by Michael Porter. It was first put forward by analyzing how to help form a country's overall advantage. This model has a high degree of international recognition. It can help to analyze the factors of success and failure between international economic and trade wars. The improved Porter model is improved based on Porter's Diamond Model. From the analysis of Chinese display industry, the improved Porter Model includes four internal factors, namely factors, demand, supporting industry, and strategic competition, and two external factors, that is random events and government. The industry must pay attention to the internal factors, and the external factors can be properly prepared and coordinated. From the analysis of internal factor, the factor is the production factor, including human resources, natural resources, knowledge resources and capital resources; the demand includes the expected demand and the exploration of international business opportunities; the supporting industry can be comprehensively analyzed from the current situation of Chinese industrial structure and related industries, and the encouraging industry will have obvious policy support; strategic competition is considered from the cost and industry types ^[1-2].

2. Analysis of the Current Status of Chinese Display Industry

The current status of Chinese display industry is gradually changing from the era of horse racing to the situation of dual-hero hegemony. In the era of LCD, panel competition is in Korea, Japan, and China. However, data from 2018 shows that OLED panels in mainland China meet the world through Huawei mate20 pro, and the gap between Korean companies and China companies has widened. Therefore, the entry barrier of the industry has been raised, and the profitability has obviously improved. At present, the domestic display industry invests more in research and development, and the government's policies also tend to encourage. The display panel is one of the strategic industries that the country focuses on, so the government will encourage it. The characteristics of the display industry are technology-intensive and capital-intensive, so the capital threshold and technology threshold have always been high. To have a leading position in the industry, large capital investment is needed in equipment, production lines, research and development, patents, and optimization of production processes. Therefore, the government's funding encouragement will significantly ease the economic pressure on enterprises. From the analysis of the situation of BOE, the number of invention patent applications in 2018 was close to 1W, and the authorized patents were close to 50%. This data represents the rapid research and development situation in the industry, and also reflects the support of government and the state for the industry. It shows that the display industry plays an important role in the country's industrialization process [3-4].

However, from the actual market analysis, the export scale of Chinese LCD products has been declining in recent years, partly because of the slow development of the global electronic industry, and partly because of the limitations of its own products. The display products developed by China, such as liquid crystal displays which are mostly mid-range and even low-end products analyzed from international standards. The technical content is relatively low, and their competitiveness in the high-end market is weak. Although China ranks first in the world for the volume of LCD screens, we still have a long distance with South Korea and Japan in terms of technology, and we still need to continue to make breakthroughs in technology in Chinese display industry.

3. Suggestions to Improve the International Competitiveness of the Chinese Display Industry Based On the Improved Porter Model

Thinking from improving the internal factors of the Porter Model, Chinese display industry should derive its thinking from four internal factors to take the world to the next level.

3.1 Cultivation of Production Factors

Production factors need to be optimized internally and controlled from the cost to help enterprises develop better. It means that enterprises should seize the favorable demand conditions in the chaotic market, and further increase the scale of enterprises in the mode of merger and acquisition to help enterprises to cross the basic threshold of international industrial chain. Besides, further production bases are being established. Africa, Asia, Southeast Asia and other places have relatively low labor force. They choose to produce in countries with low labor force, rely on their own core production technology, and use international logistics and sales rules to truly spread the international layout. It is necessary to update the management technology. The management system should also be adjusted according to the international layout, and the advanced and efficient management mode should be explored to help the development of their own enterprises. The cultivation of production factors can also start from related industries and supporting industries, help stimulate or create more favorable production factors, and turn their incubation into product competitive advantage to realize the optimal allocation of factors and improve international competitiveness [5-6].

3.2 Diversified Demand

It is important to stimulate domestic demand from the perspective of improving the international competitiveness of Chinese display industry. The core of stimulating domestic demand is to improve high-level demand. The direct result of high-level demand is quality assurance. After

quality optimization, it has fundamental significance for the later stage of products. Demand is taken as the core guidance with professional and excellent production, which can give full play to the advantages of domestic demand, better attract international demand and attract foreign investors, and significantly improve the status of domestic products. After quality optimization, we can start from the perspective of making up for supporting industries, and start from complementary or alternative products, which can also attract international demand. Fierce competition can promote the development of enterprises, achieve quality breakthrough, and improve the overall image of the industry. Therefore, starting from the diversified needs and taking it as the goal, improving the product quality and product differentiation can better help enterprises to open the international market.

3.3 Industry Leading Development

Chinese display industry and related upstream and downstream industries are in fact interdependent and competitive. However, if the downstream industry shows a supportive industry, the whole industry chain will form a better development. When analyzing professional production factors, we can choose supporting industries based on the principle of industry-oriented development, so that the whole industrial chain of the enterprise is more smooth, the production efficiency is more efficient, and the production cost is reduced due to supporting industries. Compared with the development of other countries, Chinese display industry chain as a whole is in the mode of competition and encouraging development. We have more unique advantages, and the overall improvement of the industry is faster. At this time, we will improve the quality of the display industry, control the cost, so that Chinese display industry can make its reputation internationally and occupy the international market. The improvement of quality and cost control can also stimulate the growth and deepening of upstream industry. The whole process has quality improvement, product differentiation is gradually obvious, and the development is more rapid ^[7-8].

3.4 Reasonable Competition

The competition of display industry in China should be in the environment of benign competition. On this basis, the improvement of quality can help to improve the international competitiveness of display industry, and it is also the power source to enhance the international competitiveness. Therefore, abundant production factors or professional production factors should be better utilized to improve the innovation mechanism and promote the development of talents in the industry. The development of talents can help enterprises to better launch new products and improve classic products from technology; more efficient production can be done from management; production costs can be reduced from economy, which lay the foundation for the industry to develop high-quality products. Then we will improve our own technology according to the actual demand of the market, accelerate the development of product differentiation, overlook the international market, and eliminate the inferior products in the industry, in order to truly realize the benign competition mode of "big fish eat small fish" and help the whole industry enter into a virtuous circle. Only in this way can China occupy a place in the changeable international market.

Conclusion

The Porter's Diamond Model is studied, and the improved Porter Model is analyzed from four internal factors. The combination of internal factors and external factors can help form a virtuous circle to help companies better manufacture high-quality products, to stimulate market demand with high-quality products, to promote product optimization, and to make the entire industry enter a virtuous circle. Eventually, a low-cost, differentiated approach and healthy competition have gradually formed, so that Chinese display industry has better international competitiveness.

References

[1] Lin Xiwei. Research on the Competitive Advantage of Yanbian Korean Kimchi Industry Based

on "Diamond Model" [J]. Shopping Mall Modernization, 2017 (9): 173-174.

[2] Zhou Zhiguo, Hou Jing, Meng Jianfeng. Discussion on the Construction of Modern Agriculture Demonstration Zone Based on the Application of "Diamond" Model in Agricultural Industrial Clusters: A Case Study of Yongqing County, Hebei Province [J]. Agricultural Economy, 2017 (5): 9-11.

[3] Lei Sen. An Analysis of the Competitive Advantages of Korean TV Drama Industry: Based on the Perspective of Porter's Diamond Model [J]. Science Communication, 2019 (15): 183-184.

[4] Gao Yue. Strategic Analysis of SF Express Enterprises: with SWOT Analysis and Porter's Five Force Model as Tools [J]. Market Modernization, 2017 (17): 33-34.

[5] Chen Hongyu. Research on Whether Environmental Regulations Can Promote Technological Innovation: A Porter Hypothesis Test Based on Panel Data of Chinese Industries [J]. Times Finance, 2017 (36): 189-189.

[6] Liu Yuanhang. Research on the Financing of Chinese and Foreign Pension Real Estate Projects Based on the "Five Force Model": Taking Jinling Tianquanhu Pension Health Community Project as an Example [J]. Zhifu Times, 2018 (5X): 30-31.

[7] Zhang Zhengyi, Liu Bing. Path Choices for Improving the Competitiveness of Ice and Snow Sports Tourism Industry of China from the Perspective of Diamond Model Theory [J]. Zhejiang Sport Science, 2019 (5): 7-12.

[8] Liu Wenyu. Analysis of the Competitive Advantage of Internet of Things Industry in China Based on the "Diamond Model" and Its Policy Implications [J]. Journal of Taiyuan Urban Vocational College, 2017 (7).