

Research on the International Competitiveness of Xiaomi

Mobile Phone

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Abstract. Modern communication industry plays an important role in the development of the country. Whether it is from the technical aspects of mobile phones or from the marketing of mobile phone sales, the development is relatively rapid, and there are important breakthroughs in international trade. It also makes contributions to the transformation and upgrading of China's industry. This paper takes Xiaomi mobile phone as the case to analyze its international competitiveness by calculating Export Market Share, Trade Specialization Coefficient and Revealed Comparative Advantage. The findings in this paper include that Xiaomi mobile phone accounted for a large share of China's mobile phone exports and its international competitiveness is strong.

10 Introduction

As an emerging enterprise, Xiaomi mobile phone has performed very well in the international market. As one of the leading roles of domestic mobile phone manufacturers, its international market performance has affected the development of China's mobile phone industry to a certain extent. We need to study the international competitiveness of Xiaomi mobile phone to provide suggestions for Xiaomi Company. At present, many articles on the international competitiveness of Xiaomi mobile phones are qualitative analysis of their international competitiveness, but this paper analyze the international competitiveness of Xiaomi mobile phone based on the quantitative study of the international competitiveness of China's mobile phone industry. We analyze the competitiveness of Xiaomi mobile phone in the international market from Export market share, Trade Specialization Coefficient and Revealed Comparative Advantage in the theory of international trade. However, it is difficult to obtain the most accurate international competitiveness data of Xiaomi mobile phone. From the perspective of industrial economics, the international competitiveness of all mobile phone enterprises in the mobile phone industry constitutes the international competitiveness of this industry. The international competitiveness of the industry and the international competitiveness of enterprises promote and influence each other. Xiaomi mobile phone have a large market share among Chinese mobile phone companies. Therefore, the international competitiveness performance of Chinese mobile phone industry is adopted here to illustrate the international competitiveness of Xiaomi mobile phone.

2. International Competitiveness Indices Selection

2.1 Export market share

Export market share is to evaluate the percentage of the total export of a certain industry in a country or region relative to the total export of the industry in the world [1]. It reflects the share or degree of a product exported by a specific country or region in the international export market [2]. It can be expressed by the following equation 1:

$$EMS_{ij} = \frac{X_{ij}}{X_{iw}} \quad (1)$$

In this equation: EMS_{ij} refers to the export market share of j country i industry in the world

market. X_{ij} represents the total exports of the j country's i industry. X_{iw} is the total value of exports from i industry around the world [3].

The value of EMS_{ij} should be between 0 and 1. The closer the value is to 1, the higher the share of the j national i industry in the world market or the market of a country, and the stronger the international competitiveness. The closer the value is to 0, the lower the share of the j national i industry in the world market or the market of a country, and the weaker the international competitiveness.

2.2 Trade specialization coefficient

The trade specialization coefficient is also known as the “net export index” or “trade division index”, which is also known as the trade competitiveness index by some domestic scholars. Trade specialization coefficient usually refers to the ratio of a country's net exports of a certain industry or a certain commodity to the total trade of such commodity, which is used to illustrate the relative competitive advantage of the industry or the product in the international market [4]. It can be expressed by the following equation 2:

$$TSC_{ij} = \frac{E_{ij} - I_{ij}}{E_{ij} + I_{ij}} \quad (2)$$

In this equation: TSC_{ij} represents the trade specialization coefficient of j country's i industry. E_{ij} represents the total export value of the j country's i industries. I_{ij} represents the total amount of imports of the j country's i industries. TSC_{ij} is between -1 and 1.

If the trade specialization coefficient is positive, it means that the j country's i industry or commodity production efficiency is higher than international average level, from the point of import and export, there existed a trade surplus, the j commodities are the i commodity net supplier, with strong export competitiveness, corresponding to the industry's international competitiveness is stronger. When the trade specialization coefficient is close to 1, the industry international competitiveness is stronger. Industries such as trade specialization coefficient is negative, means that j country's i industry or commodity production efficiency is lower than the international average. From the point of import and export, there is the goods from the trade deficit, j country is a net importer of i goods, export competitiveness is weak, corresponding to the industry's international competitiveness is weaker. When the trade specialization coefficient close to -1, industry international competitiveness is weak [5].

2.3 Revealed comparative advantage

The revealed comparative advantage index refers to the ratio of a country's total exports of a product as a percentage of its total exports to the world's total exports of that product as a percentage of total world exports of all products [6]. The calculation equation is as follows:

$$RCA_{ij} = \frac{X_{ij} / X_j}{X_{iw} / X_w} \quad (3)$$

In this equation: RCA_{ij} represents the revealed comparative advantage index of j country's i industry products. X_{ij} represents the total value of the j country's i industry merchandise exports. X_j represents the total value of the j country's exports. X_{iw} represents the total amount of goods exported by i countries in the world. X_w represents the total exports of countries in the world.

RCA can reflect the relative advantage of a country's exports of a certain product to the average export level in the world, effectively avoiding the influence of the total export volume of the country and the world and can truthfully reflect the relative advantage of the product or industry, which is widely used in the competitiveness research [7].

According to the criteria of JETRO, the explicit comparative advantage index of exports can be divided into four levels: strong (S), second strong (R), medium (M) and weak (W). When $RCA \in (2.5, +\infty)$, the industry has a strong international competitiveness. When $RCA \in$

(1.25,2.5), the industry has second strong international competitiveness. When $RCA \in (0.8,1.25)$, the industry has medium international competitiveness. When $RCA \in (0,0.8)$, the industry does not have international competitiveness.

3. Evaluation of International Competitiveness of Xiaomi Mobile Phone

3.1 The relationship between Chinese mobile phone enterprises and Chinese mobile phone industry in international competitiveness

International competitiveness of industry belongs to the category of international trade theory, which mainly studies the competitiveness of the industry's import and export in the global scope. The international competitiveness of enterprises is contained in the international competitiveness of the industry [8]. From a micro perspective, all the relevant enterprises in a region constitute the industry of the region [9]. The international competitiveness of a country's industry is the sum of the international competitiveness of its enterprises in all industries. Enterprise international competitiveness and industry international competitiveness are mutual influence and mutual promotion.

China's developed mobile phone industry supply chain and huge local market provide a solid foundation for the development of Chinese mobile phone enterprises. Therefore, the international competitiveness of Chinese mobile phone enterprises can be studied with the international competitiveness of Chinese mobile phone industry in a sense.

3.2 The relationship between Xiaomi mobile phone and Chinese mobile phone companies

With the rapid development of domestic mobile phone manufacturers, Xiaomi, as a rookie in the mobile phone industry, quickly occupies a place in the domestic and foreign markets with high cost performance. The global mobile phone shipment report of Q3 2018 issued by Counterpoint, and the top five global mobile phone shipments are Samsung, Huawei, Apple, Xiaomi and OPPO. Among them, Samsung mobile phone shipments accounted for 18.69%, Huawei mobile phone shipments accounted for 13.44%, Apple mobile phone shipments accounted for 12.12%, Xiaomi mobile phone shipments accounted for 9.23%, OPPO mobile phone shipments for 8.76%.

From the perspective of overseas performance of Chinese mobile phone manufacturers, in the first half of 2018, overseas shipments of Huawei mobile phones reached 43.8 million, overseas shipments of Xiaomi mobile phones reached 32.2 million, overseas shipments of OPPO mobile phones reached 15.6 million, and the remaining brands exported less than the brands referred before.

In terms of overseas shipments, Huawei has slightly more phones than Xiaomi. However, from the perspective of volume, Huawei and Xiaomi's shipment scale is quite large, which belongs to the first echelon of domestic mobile phone manufacturers and occupies most of the overseas shipments of domestic mobile phones.

From the perspective of industrial concentration, the C4 value of the domestic mobile phone industry is 72%, and the C8 value is 90.8%. According to Bain's market structure criteria, the domestic mobile phone market is now in a highly concentrated and oligopolistic market structure. From the perspective of microeconomics, the domestic mobile phone market at this time was controlled by a few enterprises. Xiaomi mobile phone can be said to be one of the leading enterprises of Chinese mobile phone enterprises, the overall performance of Chinese mobile phone enterprises and the performance of Xiaomi mobile phone is inseparable.

3.3 Export Market Share of Chinese mobile phone

As can be seen from the data in Table 1, the total export of Chinese mobile phone industry increased continuously from 81.025 billion dollars in 2012 to 123.734 billion dollars in 2015. Affected by the decline of global mobile phone export, Chinese mobile phone export dropped to 115.589 billion dollars in 2016. In the context of declining global mobile phone exports, Chinese mobile phone export market share increased from 39.98% in 2012 to 57.86% in 2016, which was

not greatly affected. Therefore, from the perspective of export market share, the international competitiveness of China’s mobile phone industry is very strong. However, the export of mobile phone industry is accompanied by import, so the trade specialization coefficient needs to be further analyzed.

Table 1 Export market share of China’s mobile phone industry from 2012 to 2016.

Time	China’s total mobile phone exports (100 million USD)	Global mobile phone exports (100 million USD)	Export Market Share
2012	810.25	2026.59	39.98%
2013	950.79	2424.11	39.22%
2014	1153.55	2611.25	44.18%
2015	1237.34	2485.31	49.79%
2016	1155.89	1997.6	57.86%

Data source: Study on International Competitiveness of Chinese Mobile Phone Enterprises in the Thailand Market [10]

3.4 Specialization coefficient of Chinese mobile phone trade

As can be seen from the data in Table 3, the trade specialization coefficient of China’s mobile phone industry has been on the rise in general in recent years, and slightly declined in 2015 and 2016, reaching 0.99 in 2017. In the past six years, the trade specialization coefficient of China’s mobile phone industry has been stable above 0.95. According to the corresponding relationship between the trade specialization coefficient and international competitiveness in Table 2, the production efficiency of China’s mobile phone industry is higher than the international average level, with strong export competitiveness and strong international competitiveness. According to the current trend, the international competitive advantage of China’s mobile phone industry will be further enhanced.

Table 2 Relationship between TSC value and international competitiveness of products.

TSC value	International Competitiveness
(-1,-0.8]	Obvious competitive disadvantage
(-0.8,-0.5]	Significant competitive disadvantage
(-0.5,0)	Competitive disadvantage
Close to 0	Equivalent to the international average competitiveness
(0,0.5)	Have a competitive advantage
[0.5,0.8)	Significant competitive advantage
[0.8,1)	Obvious competitive advantage

Table 3 Trade specialization coefficient of China’s mobile phone industry from 2012 to 2016.

Time	China’s total mobile phone exports (100 million USD)	China’s total mobile phone imports (100 million USD)	Trade Specialization Coefficient
2012	810.25	15.16	0.9633
2013	950.79	15.47	0.9680
2014	1153.55	16.29	0.9722
2015	1237.34	28.89	0.9544
2016	1155.89	24.35	0.9587

Data source: General Administration of Customs P.R. China; UN Comtrade.

3.5 Revealed comparative advantage

As can be seen from the data in Table 5 above, the revealed comparative advantage index of China’s mobile phone industry showed an upward trend from 2012 to 2016, and slightly declined in 2013. In 2016, the revealed comparative advantage index of China’s mobile phone industry reached

4.25. According to the evaluation criteria of revealed comparative advantage index and international competitiveness in Table 4, China's mobile phone industry has a strong international competitiveness and a trend of further improvement.

Table 4 Relationship between RCA value and international competitiveness of products.

RCA value	International Competitiveness
(0,0.8)	No competitive advantage
(0.8,1.25)	Above average competitive advantage
(1.25,2.5)	Strong competitive advantage
Greater than 2.5	Have a strong competitive advantage

Table 5 RCA indices of China's mobile phone industry from 2012 to 2016

Time	China's total mobile phone exports (100 million USD)	China's total exports (100 million USD)	World mobile phone exports (100 million USD)	Total world exports (100 million USD)	Revealed Comparative Advantage Index
2012	810.25	20487.14	2026.59	179663.52	3.51
2013	950.79	22090.04	2424.11	186112.21	3.30
2014	1153.55	23422.93	2611.25	185068.65	3.49
2015	1237.34	22734.68	2485.31	161365.91	3.53
2016	1155.89	20976.31	1997.6	153919.19	4.25

Data source: General Administration of Customs P.R. China; UN Comtrade; UN Database.

4. Conclusion

According to the theory of market concentration, the current domestic mobile phone market is in a highly concentrated and oligopolistic market structure. Xiaomi and Huawei, as the leading enterprises, have a large share in the Chinese mobile phone market, which has a great influence on domestic mobile phone enterprises.

Huawei and Xiaomi are equally weighted in terms of international competitiveness. Although Huawei is slightly stronger than Xiaomi in the domestic market, Xiaomi is comparable to Huawei in terms of overseas mobile phone shipments. The evaluation index of international competitiveness includes the import and export data of mobile phones, so Huawei's advantage in the domestic market has little influence on the analysis of Xiaomi's international competitiveness.

The conclusion can be drawn from the above index analysis: at present, China's mobile phone industry has strong international competitiveness. The total export data of Chinese mobile phones used in the index calculation include the OEM processing of foreign mobile phone brands such as Apple and Samsung in China. Considering that the domestic mobile phone market is not dominated by Samsung and Apple, the international competitiveness index of China's mobile phone industry will not deviate too much from that of Chinese mobile phone companies. Therefore, the performance of the international competitiveness of domestic mobile phone enterprises is slightly weaker than that reflected by the indicators, but still in a strong state of international competitiveness.

As one of the rapidly developing brands among domestic mobile phone manufacturers, Xiaomi mobile phone has made great efforts in innovation and performed excellently in the road of internationalization, especially in the Indian and European markets. This chapter preliminarily puts forward the improvement measures for the future development of Xiaomi mobile phone, mainly including the following aspects: establish core-tech technology departments, establish user feature database, establish a user pricing system.

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