

# The Value Chain Circulation of Chinese Multinational Corporations in the Context of the Dual-Circulation—Taking SAIC as an example

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## **Abstract:**

This article measures and evaluates the value chain circulation performance of Chinese automotive multinational corporations based on the value chain theory by taking SAIC as an example in the context of the dual-circulation. The study found that Chinese automotive multinationals have low value chain status, poor cycle efficiency, and weak brand influence under the background of the dual-circulation. The main reasons include insufficient R&D investment, lack of an independent and controllable internal circulation industrial chain; unreasonable market structure and weak overseas marketing capabilities of independent brands; imperfect dual-circulation after-sales service system, etc. Based on these, this article puts forward countermeasures such as expanding the scale of R&D investment, realizing the independent control of the internal recycling industry chain; optimizing the market structure, enhancing the overseas marketing capabilities of independent brands; building a complete dual-circulation after-sales service system. It hopes to provide a reference for Chinese automotive multinational companies to realize the improvement of value chain status and the improvement of value chain circulation performance under the background of dual-circulation.

**Keywords:** *Dual-circulation; Value Chain Cycle; Chinese Automotive Multinational Corporation; SAIC.*

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## I. INTRODUCTION

Since the reform and opening-up, China has followed the wave of economic globalization, actively integrated into the global value chain, and promoted industrial transformation and upgrading. While striving towards the core position of the global value chain, it has also achieved rapid economic growth. However, in recent years, the spread of the epidemic has exacerbated the trend of deglobalization. At the same time, in order to maintain their monopoly in cutting-edge technology and other fields, some developed countries have taken various measures to try to contain China development, posing brand new challenges to China economic development. In the face of the new development situation and environment, the Chinese government proposes to accelerate the construction of a new development pattern with the domestic cycle as the mainstay and the domestic and international dual cycles mutually reinforcing. To

build a new development pattern, the key is to realize the internal and external high-quality cycle of economic development. Among them, multinational corporations are the key subjects leading the governance of the global value chain under the dual-circulation<sup>[1]</sup>. And the automobile industry is undoubtedly an important driving force for China economic development. Therefore, improving the value chain cycle performance of Chinese auto multinationals under the background of dual-circulation is of great significance to stabilizing and improving the global value chain status of Chinese auto multinationals, and to the high-quality development of China economy during the 14th Five-Year Plan period.

The academic researches on the new development pattern of the dual-circulation mainly include analyzing the policy connotation of the dual-circulation, excavating its theoretical logic and practical logic, and making policy suggestions for China macroeconomic development. Huang Qunhui analyzed that the essence of the dual-circulation is to promote the change of the development pattern dominated by the export-oriented economy, and form a new development pattern in which the internal and external economic cycles promote each other and the growth momentum is more coordinated<sup>[2]</sup>. Shi Yinglai and Qian Xuefeng summarized the theoretical logic of the new dual-circulation development pattern in Marxist political economy, great power economic theory, economic growth theory and international trade theory<sup>[3-4]</sup>. Pu Qingping pointed out that responding to the trend of deglobalization, the novel coronavirus pneumonia, and the transformation of economic development are the realistic logic for building a new development pattern<sup>[5]</sup>. Li Jun suggested that to build a new development pattern, we should promote the upgrading of the opening-up strategy and the high-quality development of trade, actively and effectively utilize foreign capital, and actively participate in international economic and trade governance<sup>[6]</sup>. Wang Juanjuan found that in order to form a dual cycle of the industrial chain that promotes each other, it is necessary to build an inner cycle and an outer cycle based on the principle of differentiation<sup>[7]</sup>.

Some scholars discussed the evolution of global value chain, and gave China strategic choices based on the dual-circulation perspective. The research results of Niu Zhiwei and others showed that the value-added of Chinese industries in the global value chain is low. In the future, we should actively adjust and improve the domestic and international circulation circles to enhance the competitiveness of the industry<sup>[8]</sup>. Zheng Jianming and others pointed out that the epidemic has hindered the improvement of Chinese status in the global value chain. In the future, China needs to speed up the transformation and upgrading of its industrial structure, and use the coordinated protests of various countries as an opportunity to build a China-led regional value chain<sup>[9]</sup>. The research of Zhao Rong and Zhang Xingxiang provided a development idea for the manufacturing industry to realize the upgrading of the industrial structure under the background of dual-circulation<sup>[10-11]</sup>.

The researches on the value chain of the automobile industry mainly focus on the position of the Chinese automobile industry in the global value chain. Li Yan and others believed that the degree of Chinese automobile industry's participation in the international vertical specialization of labor has been deepening year by year, and the global value chain status index has improved, but there is still a large gap compared with the top countries in the world<sup>[12]</sup>. Tao Tao pointed out that the current technological innovations characterized by new energy and intelligent driving are changing the technical characteristics

and production organization characteristics of automobile products. The strong growth of Chinese auto market and the vigorous development of local new energy vehicle companies are also improving the capabilities of Chinese suppliers. These bring opportunities and challenges to the upgrading of China automobile industry<sup>[13]</sup>. Wang Yuanbin studied the value chain optimization problem of China's auto industry. He pointed out that China is currently in the middle of the global value chain and can easily be replaced by other countries and regions in the global auto trade. Under the new situation, Chinese automobile industry must accelerate the transition from relying on scale and speed to pursuing quality and profitability<sup>[14]</sup>.

In summary, the researches on the new development pattern of dual-circulation focus more on the dual-circulation strategy itself and its impact on macroeconomic development. Some scholars have studied the development of the global value chain from the perspective of dual-circulation, but most of them have analyzed it from a macro perspective. The researches on the value chain of the automobile industry pay more attention to the issue of improving the status of the industry value chain. Therefore, this paper takes SAIC as an example, based on the background of the new dual-circulation development pattern, to measure and evaluate the value chain cycle performance of Chinese auto multinationals from a micro perspective. It tries to provide new ideas for Chinese multinational companies to improve the cycle performance of the value chain in the context of dual-circulation.

## II. THEORETICAL BASIS

The theoretical basis of this paper is the value chain theory. The concept of value chain was first proposed by Harvard Business School professor Michael Porter in his book "Competitive Advantage". It refers to the various stages from raw materials to final products experienced by a commodity or service in the process of creation, or a series of technological processes in which some groups work together to continuously create value and serve customers. Every enterprise is a collection of various activities in the process of designing, producing, selling, dispatching and assisting its products. These different but interrelated production and operation activities constitute a dynamic process of creating value, and this dynamic process is the value chain<sup>[15]</sup>. The value chain can be divided into two parts. The lower part is the basic value-added activities of the enterprise, the upper part is the auxiliary value-added activities of the enterprise. The competitive advantage of an enterprise is often reflected in certain key links<sup>[16]</sup>.

Based on the theoretical connotation of the enterprise value chain, this paper defines the cycle of enterprise value chain as in the process of generating new value of goods or services from raw materials to final products, enterprises continue to obtain added value benefits and start a new round of production. Therefore, the performance of the enterprise value chain cycle is the outstanding degree of the enterprise completing the value chain cycle under the existing conditions. It can be mainly reflected in the value chain status and value chain benefits of enterprises. Enterprises invest differently in each link of the value chain, and the efficiency of resource use is different, the performance of the value chain cycle is also different. Based on this perspective, this paper measures and evaluates the value chain cycle performance of Chinese auto multinationals under the dual-cycle background through the benefits obtained by the

company in the value chain and the company's input and output in key links such as marketing and technology development.

### III. PERFORMANCE EVALUATION OF VALUE CHAIN CYCLE OF CHINESE AUTOMOTIVE MULTINATIONAL CORPORATIONS

#### 2.1 Case selection and Data sources

SAIC is currently the largest automobile group in China in terms of production and sales. Its vehicle production and sales scale, new energy vehicle sales, and vehicle export overseas sales all ranked first in China, and it has a number of individual champion enterprise titles in sub-sectors such as auto parts, auto finance, and auto logistics. The comprehensive strength of the business system leads the domestic automobile industry. As a result, SAIC was selected as the main representative of Chinese automotive multinationals. Compare the relevant indicators of SAIC with the top six automotive multinational companies in the Fortune Global 500, As shown in TABLE I. Trying to find out the current problems and causes of the value chain cycle of Chinese auto multinational companies. And try to give corresponding policy recommendations in the context of double circulation.

The data of the cases in this paper come from the annual financial reports disclosed on the official websites of the multinational companies in each case and the official website of the U.S. Securities and Exchange Commission (<https://www.sec.gov/>). Considering that in 2020, Chinese and foreign auto multinationals will be greatly affected by force majeure such as epidemics and natural disasters, relevant indicators may not reflect the actual situation of the value chain cycle of Chinese and foreign auto multinationals. Therefore, this paper uses the relevant data from 2017 to 2019 as the measurement basis to ensure the reliability of the analysis results.

**TABLE I. Case multinational companies and their rankings**

COMPANY	FORTUNE 500 RANKING	AUTO INDUSTRY RANKING
VOLKSWAGEN	7	1
TOYOTA	10	2
DAIMLER	20	3
FORD	31	4
HONDA	39	5
GM	40	6
SAIC	52	7

Source: 2020 Fortune Global 500 list (<http://www.fortunechina.com/>)

#### 2.2 Current Situation Analysis of Circular Performance of SAIC Value Chain

Based on the value chain theory, this paper selects operating income, gross profit margin and home country's sales volume as indicators to measure its global value chain status, value chain recycling

efficiency and brand influence, respectively. And then, comparing SAIC with the same period indicators of six leading global automotive multinationals. In this way, the value chain circulation level of SAIC under the background of dual-circulation is measured and evaluated. After comparison, it is found that the value chain cycle of SAIC has the following three deficiencies.

### 2.2.1 Lower position in the value chain

The operating income indicator can measure the absolute benefits that multinational companies obtain from the global value chain of the industry through domestic and international dual circulation. Evaluate the status of multinational companies in the global value chain of the industry. The higher the operating income, the more absolute profits the multinational company can obtain from the value chain through the dual-circulation, and the higher the market share. This reflects that it will be in a higher position in the global value chain. As shown in TABLE II, operating income of SAIC in three years is lower than that of the world's top six automotive multinationals. Although the revenue levels of HONDA and GM, which are ranked fifth and sixth, are similar, the operating income of SAIC includes the income of joint venture brands such as SAIC-Volkswagen and SAIC-GM. Moreover, the three-year sales volume of these joint venture brands has reached 91.44%, 88.26%, and 86.75% respectively, and the self-owned brands only account for less than 15% of SAIC annual sales. It shows that the self-owned brand brings little operating income to SAIC in the dual-circulation. Although it can be seen that the proportion of sales of self-owned brands is on the rise, SAIC still mainly relies on the sales of joint venture brands. This sales structure will lead SAIC to always be at a lower position in the global value chain in the context of dual-circulation. If this situation cannot be reversed, over time, it will not only be difficult for its own brands to develop healthily, but SAIC may also become a "processing factory" for joint venture brands.

**TABLE II. Cases Value Chain Cycle Performance Status**

COMPANY	YEAR	OPERATING INCOME	GROSS PROFIT MARGIN(%)	HOME COUNTRY SALES(%)
SAIC	2017	128898	14.41	97.54
	2018	136448	14.22	96.07
	2019	122282	13.37	94.39
VOLKSEAGEN	2017	260486	18.44	11.27
	2018	278608	19.65	11.10
	2019	282998	19.45	12.35
TOYOTA	2017	262048	18.69	25.16
	2018	273833	18.01	24.80
	2019	274697	18.07	25.0
DAIMLER	2017	185561	20.89	14.07
	2018	197705	19.76	13.94
	2019	193509	16.88	14.66
FORD	2017	156776	10.42	38.84

	2018	160338	9.11	42.46
	2019	155900	7.53	44.78
	2017	137012	21.88	13.39
HONDA	2018	143945	20.82	13.51
	2019	137037	20.62	14.03
	2017	145588	13.46	31.27
GM	2018	147049	9.59	35.23
	2019	137237	10.18	37.41

Note: \$ amounts in millions.

### 2.2.2 Poor value chain cycle efficiency

Gross profit margin is the ratio of operating profit to operating income. This indicator can measure the relative benefit level of multinational companies from the global value chain of the industry through dual circulation, reflecting the efficiencies of the value chain cycle of multinational companies. The higher the gross profit margin, the more relative benefits the multinational corporations obtain in the global value chain of the industry through dual circulation, and the better the value chain circulation benefits. In TABLE II, the three-year gross profit margin of SAIC Motor was 14.41%, 14.22%, and 13.37%, which was only slightly higher than that of Ford and GM. There is a big gap between the gross profit margin level of the other four multinational companies. This shows that the relative benefits of SAIC from the value chain of the automobile industry are still relatively large compared to the industry-leading level, and the benefit level of the value chain cycle in the dual-circulation process is poor.

### 2.2.3 Weak brand influence

The proportion of home country sales reflects the market structure of multinational companies in the dual-circulation process, and can measure the global brand influence of multinational companies. The higher the proportion of sales in the home country, the higher the reliance on the home market, that is, the internal circulation. The global influence of the brand is weaker. It can be seen from Table II that, as the top domestic automobile company in terms of export sales of vehicles, SAIC three-year domestic sales accounted for 97.54%, 96.07%, and 94.39%, respectively, and the proportion of external circulation was extremely low. In contrast, the home country sales of the world's six leading auto multinationals are all below 40%, three of them reached below 15%. They all have a better global layout. It cannot be denied that China is currently the world's largest automobile consumer and an important market that no company will give up, but it is still small compared to the global market. In the context of dual-circulation, SAIC's over-reliance on the Chinese market will make its brand global influence weak, making it difficult for SAIC to compete with other international brands in overseas markets.

To sum up, this paper draws the following conclusions through the comparison of relevant indicators between SAIC and the world's leading automotive multinational companies. First, there is still a big gap between SAIC benefits from the global value chain of the automotive industry in the dual-circulation process and the leading level. The value chain status is not high, and the sales structure mainly relies on

joint venture brands. Although the proportion of self-owned brand sales is on the rise, it is still low. Second, the gross profit margin of SAIC is not high, the gap is large compared with the leading level, and the value chain recycling efficiency is poor. Third, SAIC has a high degree of dependence on the internal circulation market, a low proportion of exports, and weak external circulation capabilities. Its brand has global influence and weak competitiveness.

## 2.3 Cause Analysis

### 2.3.1 Insufficient R&D investment and lack of an independent and controllable internal circulation industry chain.

The technology development link is one of the key links of the enterprise value chain cycle. The investment of the enterprise in this link will affect the added value of its final product. The higher the level of independent core technology contained in the final product, the higher the added value of the product, and the more income the enterprise can share from the global value chain of the industry in the process of completing the dual circulation, thus the higher the status of the global value chain, the better the value chain cycle benefits. Therefore, the investment scale of multinational companies in R&D will affect their ability to master and develop core technologies in the industry, determine the level of added value of products, and ultimately affect the value chain cycle performance in the dual circulation process.

**TABLE III. R&D Investment**

COMPANY	YEAR	R&D INVESTMENT	PROPORTION
SAIC	2017	1638	1.29
	2018	2408	1.79
	2019	2141	1.79
VOLKSWAGEN	2017	14832	5.69
	2018	16113	5.78
	2019	16026	5.66
TOYOTA	2017	9493	3.62
	2018	9502	3.47
	2019	10191	3.71
DAIMLER	2017	9836	5.30
	2018	10759	5.44
	2019	10823	5.59
FORD	2017	8000	5.10
	2018	8200	5.11
	2019	7400	4.75
HONDA	2017	6706	4.89
	2018	7310	5.08
	2019	7380	5.39
GM	2017	7300	5.01

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2018	7800	5.30
2019	6800	4.95

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Note: \$ amounts in millions.

With the increasing complexity of technical systems and the acceleration of product iterations, the productivity of corporate R&D activities has shown a downward trend. The same level of technological progress requires increasing investment in R&D<sup>[17]</sup>. By comparing the R&D investment levels of SAIC and the world's leading automotive multinational companies, as shown in TABLE III, it can be found that, three-year R&D investment of SAIC was \$1.6 billion, \$2.4 billion, and \$2.1 billion, accounting for only 17.5%, 24.2%, and 21.9% of the average R&D investment of the other six multinational companies. The proportion of R&D investment in operating income is also far lower than that of the other six multinational companies. SAIC is the company with the largest R&D investment among Chinese auto multinationals, but there is still a big gap compared with the world's leading level. This shows that the current R&D investment scale of Chinese automobile multinational companies is still small, and the degree of emphasis on R&D is insufficient. This will be detrimental to the long-term exploration of the core technologies of the industry by Chinese auto multinationals, affect the added value of products, and hinder the promotion of their status in the global value chain in the dual circulation process.

On the other hand, compared with the mature automobile industry in Europe and the United States, which has accumulated for nearly a century, China automobile industry has not yet formed a complete independent and controllable internal circulation industry chain due to its short development time and less technology accumulation. Many core technologies are still "stuck in the neck". For example, the shortage of automotive chips that broke out at the end of 2020 has exposed the problem that some high-precision core components of Chinese automobiles are still controlled by other countries. Some multinational auto companies have low added value and have been at the low end of the global value chain for a long time. They still play the role of "assembly plants" for automobiles, affecting the value chain cycle performance of Chinese auto multinational companies.

2.3.2 The market structure of internal and external circulation is unreasonable, and the overseas marketing ability of independent brands is weak.

The marketing capability reflected behind the market structure and brand influence is an indispensable part of the circulation of the enterprise value chain. Excellent marketing planning is beneficial to brand sales and product market expansion in the short term. And in the long term, it can help multinational companies establish a good brand reputation, consolidate and improve brand loyalty, and expand the global influence of the brand. Ultimately, it will promote the improvement of the value chain status of multinational corporations and the improvement of value chain cycle performance in the dual circulation process.

According to the statistics of China Association of Automobile Manufacturers, from 2017 to 2019, Chinese automobile exports were 891,000, 1,041,000, and 1,024,000, respectively, accounting for 3.09%,



3.71%, and 3.97% of the total sales of the year. Although the trend is increasing year by year, the export ratio is still extremely low for China, a major producer and seller. The world's leading automobile multinational companies have global marketing networks. More than half of the automobiles produced in Germany, South Korea and Japan are exported. Among the BRICS countries, Brazil and India have a much higher proportion of automobile exports than China. This reflects the unreasonable market structure of internal and external circulation of Chinese automobile multinational companies, and the weak external circulation capacity. Unbalanced market structure will reduce the ability of Chinese auto multinational companies to prevent risks to a certain extent, and it is also not conducive to Chinese auto companies going abroad and developing overseas markets.

In addition, as shown in TABLE IV, the top ten most valuable auto brands in the world are dominated by European, American and Japanese auto brands. Among the top ten auto groups with the highest comprehensive value, China has only Geely Automobile. In the entire list, the total value of the 23 Chinese auto brands on the list (\$28.2 billion) is less than half that of Toyota (\$59.5 billion), which is far from the strongest brand. These all reflect the shortcomings of Chinese auto multinational companies in the overseas construction of their own brands. The overseas influence and competitiveness of Chinese auto brands in the international circulation process is very weak, resulting in a very limited effect of brand effects on overseas sales. The main reasons are that the overseas marketing capabilities of Chinese auto multinational companies are relatively weak, lack of overall brand planning, lag in business philosophy, and poor overseas marketing channels. The weak overseas marketing capabilities of Chinese auto multinationals are not conducive to the expansion of the global influence of Chinese auto brands, and will ultimately affect the improvement of the value chain cycle performance of Chinese auto multinationals.

**TABLE IV. Top 10 Most Valuable Auto Brands and Groups**

RANK	MOST VALUABLE AUTO BRAND		THE AUTO GROUP WITH THE HIGHEST COMPREHENSIVE BRAND VALUE	
	BRAND	COUNTRY	GROUP	COUNTRY
1	TOYOTA	JAPAN	VOLKSWAGEN	GERMANY
2	MERCEDES-BENZ	GERMANY	TOYOTA	JAPAN
3	VOLKSWAGEN	GERMANY	DAIMLER	GERMANY
4	BMW	GERMANY	BMW GROUP	GERMANY
5	PORSCHE	GERMANY	HONDA	JAPAN
6	TESLA	USA	GM	USA
7	HONDA	JAPAN	FORD	USA
8	FORD	USA	STELLANTIS	FRANCE, ITALY
9	VOLVO	SWEDEN	GEELY	CHINA
10	Audi	GERMANY	NISSAN	JAPAN

Source: Brand Finance "2021 Global Auto Brand Top 100" report. (<https://brandirectory.com/>)

### 2.3.3 The dual-circulation after-sales service system is not perfect.

After-sales service is the last link in the downstream of the enterprise value chain. It is a test of the

company's reputation. The quality of after-sales service directly affects consumers' impression of the brand. High-quality after-sales service can help multinational companies establish a solid consumer base in the domestic and international dual circulation, and a good market reputation will naturally bring considerable sales and income, promoting multinational companies to gain a firm foothold in the market and improve the cycle performance of the value chain. The world's leading automotive multinational companies all attach importance to after-sales service. For example, GM is committed to providing consumers with comprehensive, high-quality and trustworthy after-sales maintenance services. It includes the supply of original equipment parts for its products, the provision of professional technical service personnel, and the provision of regular online car diagnostic services, etc. This professional and convenient after-sales service system provides a practical guarantee for meeting consumers' daily maintenance needs for products. The after-sales service system of the Daimler consists of three dimensions: individual, company and city. This all-round after-sales service system is conducive to covering consumers with different identities and needs, and tailoring after-sales service solutions for them. It is also conducive to establishing a good reputation for the brand and enhancing the brand's influence. Toyota has built an after-sales service system based on the four principles of cordiality, implementation, promptness, and rationality in line with the production concept of "doing what consumers haven't expect". It wants what consumers think, and humanization runs through it. Therefore, its products are also favored by consumers.

At present, in the internal circulation, the after-sales service system of Chinese automobile multinational companies lacks unified and standardized industry standards and professional talents. Maintenance and other technical services are not in place. For example, there is a phenomenon that replacement parts replace maintenance, which increases the cost of use by consumers. In the external circulation, the construction of the overseas after-sales service system is lagging behind, the investment scale is small, the service outlets are few, and the relevant supporting facilities are incomplete, making it difficult to cope with emergencies. Therefore, while continuously optimizing product quality, improving technological content, and strengthening publicity and promotion, Chinese automobile multinational companies should also pay attention to the follow-up of the after-sales service level of internal and external circulation, improve the professional level of after-sales service of internal circulation, and expand the scale of after-sales service of external circulation. Only when a complete dual-circulation after-sales service system is established can a virtuous circle of value chain be brought to Chinese auto multinational companies.

## 2.4 Suggestions

2.4.1 Expand the scale of R&D investment, and promote the realization of the independent and controllable internal circulation industry chain.

The typical facts of dual-circulation interaction in the past 40 years of reform and opening up show that key core technologies cannot be "alleged". Only through independent innovation to achieve the overall breakthrough of "stuck neck" technology, and to engage in the core production links with high added value, high innovation and high wage rate, can we get rid of the international division of labor in the global value

chain "carrying water and chopping firewood"<sup>[18]</sup>. The outline of China "14th Five-Year Plan" also emphasized that it is necessary to guide the key links of the industrial chain to stay in China. It is necessary to adhere to the combination of economy and safety, make up for short boards and forge long boards. It is necessary to create an independent and controllable, safe and efficient industrial chain supply chain. In the context of the dual-circulation, as the market calls for the "new four modernizations" of "electrification, networking, intelligence, and sharing" of automobiles, Chinese auto multinational companies should expand the scale of R&D investment and accelerate key core technology research and development process to create a safe and controllable internal circulation industry chain. Break the situation that high-precision core components for vehicles are controlled by others, and promote the smooth progress of internal and external dual circulation on the premise of ensuring the independent and controllable internal circulation industry chain. Only by truly mastering key core technologies and not being "stuck in the neck" and realizing the independent and controllable industrial chain, Chinese automobile multinational companies can obtain high value-added income and improve the value chain cycle performance of multinational companies.

2.4.2 Relying on the dual circulation to optimize the market structure, enhance the overseas marketing capabilities of independent brands.

Under the background of dual-circulation, Chinese automobile multinational companies should optimize the market structure and do a good job of strategic planning for outer circulation on the premise of consolidating domestic market advantages, ensuring internal circulation and satisfying domestic demand. Gradually establish a marketing model adapted to overseas markets to achieve the coordination of short-term interests and long-term goals. Under the premise of comprehensively considering the national conditions and market environment of different countries and fully learning from the experience of internal circulation marketing, Chinese auto companies can formulate overseas marketing strategic plans in a targeted manner, promote the common development of domestic and international dual circulation, and enhance the ability of enterprises to avoid market risks. On the other hand, Chinese auto multinational companies should gradually get rid of the sales structure that relies too much on joint venture brands, and improve the external circulation marketing capabilities of their own brands. Integrate the concept and culture of the independent brand into the marketing process of the enterprise, and promote the independent brand to enter the international market. Improve the international influence and competitiveness of self-owned brands, form Chinese brand effect, and drive the improvement of value chain cycle performance of Chinese automobile multinational companies in the context of dual-circulation.

2.4.3 Build a complete dual-circulation after-sales service system.

Product after-sales service is an important link in the cycle of the enterprise value chain that cannot be ignored. A complete dual-circulation after-sales service system is crucial to the formation of a good brand reputation and the establishment of corporate market reputation. High-quality after-sales service is also the key to ensuring product quality and customer rights. In the process of consolidating the internal circulation market and promoting their own brands to gradually enter the external circulation market, Chinese

automobile multinational companies should also focus on building a full-process supporting after-sales service system. In the internal circulation, enterprises can learn from the standards of leading international automobile multinational companies and combine the actual situation to build an after-sales service system that is in line with Chinese domestic recycling market environment. Such as cultivating professional after-sales service personnel, strengthening the skills of service personnel, improving the professionalism of after-sales service, and ensuring the timely supply of relevant supporting facilities. In the external circulation, enterprises can carry out localized innovation of the external circulation after-sales service system on the basis of the internal circulation after-sales service system, combined with the national conditions and market environment of the host country, and provide after-sales service solutions more tailored to the international market. The internal circulation after-sales service system can be used as the basis and reference for the external circulation, and the external circulation after-sales service system is the expansion and extension of the internal circulation. The two promote each other and complement each other. A complete dual-circulation after-sales service system will be conducive to the continuous expansion of the global influence of Chinese auto brands and the further improvement of the value chain cycle performance of Chinese auto multinational companies.

#### **IV. CONCLUSION**

This paper takes SAIC as an example to investigate the value chain cycle performance of Chinese auto multinational companies in the context of dual-circulation. The results of the study show that Chinese auto multinational companies have a lower status in the value chain, poorer circular efficiency and weaker brand influence. Further analysis found that insufficient investment in R&D, unreasonable market structure, and imperfect dual-circulation after-sales service system are the main reasons for the above problems. Finally, some countermeasures are put forward, such as expanding the scale of R&D investment, optimizing the market structure and building a complete dual-circulation after-sales service system, in order to provide a reference for Chinese auto multinational companies to improve the cycle performance of the value chain.

This study is of great significance. First, the previous researches on the value chain mostly started from the macro perspective. This paper starts from the micro enterprise internal value chain, and examines the value chain cycle performance of Chinese auto multinational companies, which enriches the related research on the value chain. Second, this paper evaluates the value chain cycle performance of Chinese auto multinational companies under the background of dual-circulation, which will help enterprises to better realize the improvement of their value chain status and value chain cycle performance in the macro environment of building a new development pattern improvement.

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## REFERENCES

- [1] W.S. Zhang. Reality, internal logic and prospects of global value chain reconstruction. Qinghai Social Sciences, 2021(02):110-116
- [2] Q.H. Huang. The new development pattern of "dual-circulation": profound connotation, background of the times and suggestions for formation. Journal of Beijing University of Technology (Social Science Edition), 2021, 21(01):9-16
- [3] Y.L. Shi, L.M. Zhou. Theoretical logic, development process and realistic thinking of "dual-circulation". Statistics and Decision, 2021,37(10):151-154
- [4] X.F. Qian, T. Pei. The new development pattern of domestic and international dual circulation: theoretical logic and endogenous power. Journal of Chongqing University (Social Science Edition), 2021, 27(01):14-26
- [5] Q.P. Pu, C.L. Yang. Realistic logic, implementation path and times value of constructing a new development pattern of "dual circulation". Journal of Chongqing University (Social Science Edition), 2020, 26(06):24-34
- [6] J. Li. Fully and accurately understand the profound connotation of the new development pattern of "dual circulation". People's Forum, 2021(02):12-15
- [7] J.J. Wang. Thoughts on promoting the new development pattern of "dual circulation" with industrial chain. Contemporary Economic Management, 2021:1-14
- [8] Z.W. Niu, S.X. Zou, P.D. Wei. The development and change of the global value chain and the strategic choice of Chinese industry domestic and international dual circulation. Reform, 2020(12):28-47
- [9] J.M. Zheng, C. Yang, W.J. Wang. The evolution of global value chain and Chinese countermeasures under the background of the novel coronavirus pneumonia—based on the perspective of building a new development pattern of "dual circulation". Journal of Capital University of Economics and Business, 2021, 23(02):69-78
- [10] R. Wang, L.X. Zhao, Y.X. Su. Global value chain embedding, regional integration development and manufacturing industry upgrading—thinking based on the new development pattern of dual circulation. Southern Economy, 2020(10):1-19
- [11] X.X. Zhang, Y.J. Zhuang, M.L. Huang. Research on the mirror image and breakthrough path of Chinese manufacturing industry under the global value chain—based on the perspective of the new development pattern of "dual circulation". Humanities Magazine, 2020(11): 72-82
- [12] Y. Li, P. Lv, Q.B. Huang. The position of Chinese auto industry in the global value chain—based on Koopman's position index and Fally's length index analysis. International Trade Issues, 2018(04):24-35
- [13] T. Tao. Technological innovation and the structure of Chinese automobile value chain. International Trade, 2019(02):55-61
- [14] Y.B. Wang, C.Y. Wang, X.D. Zheng. The global value chain status of Chinese auto industry and its development path under the new situation. International Business (Journal of University of International Business and Economics), 2019(03):59-68
- [15] Porter ME. Competitive Advantage. New York: FreePress, 1985:25-29
- [16] Y. Yang, D.K. Yang. International Investment. Shanghai: Shanghai University of Finance and Economics Press, 2015:89
- [17] X.J. Jiang, L.J. Meng. Internal circulation as the main, external circulation empowerment and higher level dual circulation—international experience and Chinese practice. Management World, 2021, 37(01):1-19
- [18] Z. Li, Z.Z. Chang, W. Dai. Two circulation of mutual promotion: theoretical logic, strategic focus and policy orientation. Shanghai Economic Research, 2021(04): 16-27