

# ***Research on BYD's Working Capital Management from the Perspective of Supply Chain***

**Ning ZHANG**

*Institute of Economics and Management, Jiangsu University of Science and Technology, Zhenjiang  
212114, China*

*791550660@qq.com*

**Keywords:** Working capital management, Supply chain, New energy vehicle

**Abstract:** Working capital is the power source of enterprise development. The supply chain of the new energy vehicle has typical characteristics. Therefore, working capital management based on the perspective of supply chain is very important for the long-term development of new energy enterprises. Taking BYD as an example, this paper studies its working capital management from the perspective of supply chain, compares it with the industry average, and puts forward relevant countermeasures.

## **1. Introduction**

With the rapid development of the economy, the health of working capital is related to the survival of enterprises. Scholars at home and abroad have studied the management of working capital for a long time, first based on the evaluation index of single factor. In the 1990s, some scholars proposed to analyze the working capital management of enterprises from an overall perspective. Recently, traditional automobile manufacturers have put new energy into operation, which has increased the competitiveness of the industry. So, enterprises urgently need to adjust their internal structure and optimize management to seize market share. Therefore, this article takes BYD as an example to discuss its working capital management and puts forward corresponding countermeasures for its long-term development in the future, and also has reference significance for the future development of the new energy industry.

## **2. Related Concepts and Theoretical Basis**

### **2.1 Working Capital Management Related Concepts**

Working capital refers to the capital used for turnover in the daily operation of the enterprise. The management of working capital is mainly the management of current assets and current liabilities of the enterprise.

### **2.2 Supply Chain Management Related Concepts**

Supply chain refers to a functional network chain structure that connects suppliers,

manufacturers, distributors and end users into a whole, starting from supporting parts, making intermediate products and final products, and finally sending products to consumers by the sales network.

### 2.3 Working Capital Management Theory Based on Supply Chain

Wang Zhuquan (2007) reclassified working capital according to business activities and financial activities. Based on Professor Wang Zhuquan's point of view, this paper will study the business activities of working capital, divide them into procurement working capital, production working capital and sales working capital, and comprehensively study the current situation of working capital management from the perspective of supply chain.

*Table 1 Calculation Formula Of Each Channel*

evaluating indicator	Calculation formula
Working capital turnover period of procurement	$=(\text{raw materials} + \text{prepayments} - \text{accounts payable} - \text{notes payable}) / \text{operating income} * 360$
Working capital turnover period of production link	$=(\text{inventory of products in process} + \text{inventory of semi-finished products} + \text{other receivables} - \text{other payables} - \text{Payroll payable}) / \text{operating income} * 360$
Working capital turnover period of sales link	$=(\text{inventory goods} + \text{accounts receivable} + \text{notes receivable} - \text{advance receipts} - \text{taxes payable}) / \text{operating income} * 360$

## 3. Analysis of BYD's Working Capital Management Based on Supply Chain

### 3.1 Company Profile

BYD has taken new energy vehicles as the core industry in recent years and become the leader of the domestic new energy vehicle industry. The group spans the three major fields of automobile, IT and new energy. BYD will promote the all-round expansion of new energy vehicles through the “7 + 4” strategy in the future. The difference between BYD and other enterprises is that it implements a vertically integrated supply chain, and its self-sufficiency rate of accessories reaches 50%, From the production of auto parts to the independent research and development of auto molds are completed through the merger of upstream and downstream enterprises.

### 3.2 Enterprise Working Capital Status

Through research and analysis, BYD's short-term solvency is enhanced and the liquidity of existing assets is good, but the proportion of inventory is too high and the turnover period is long; On the surface, the long-term solvency is weak. The profitability has been steadily improved. Although the sales revenue has increased in recent years, the overall net sales interest rate is not ideal. Enterprises should pay more attention to the return on net assets and net interest rate while maintaining the good trend in recent years. The operating capacity needs to be improved. Although the recovery speed of accounts receivable is improving, the overall value is high, and the company has hidden dangers of bad debts; The inventory turnover speed is gradually decreasing and the inventory turnover time is lengthened, which will reduce the enterprise current ratio. In order to promote the sustainable development of the enterprise, we should be vigilant.

### 3.3 Analysis of Working Capital Management Based on Supply Chain

This paper selects GAC group as the comparison object of the same industry to analyze BYD's working capital management ability under the supply chain.

*Table 2 Working Capital Turnover Days of Each Channel*

Various channels	BYD			GAC		
	2018	2019	2020	2018	2019	2020
Purchase	-113.74	-91.07	-108.25	-45.42	-62.16	-53.33
Production	1.21	5.84	-7.09	-34.16	-29.11	-11.19
Sale	156.85	150.47	128.59	52.64	60.60	27.54

As can be seen from the above table, the turnover speed of BYD and GAC is quite different. BYD's working capital turnover days of procurement channels have gradually increased, and it is better than GAC group. In terms of production channels, BYD expanded nearly four times in 2019 and decreased rapidly in 2020. However, the annual turnover days of GAC group gradually increased. The working capital turnover days of BYD's sales channel have decreased from 156.85 to 128.59 in recent three years, but it is still much slower than GAC group, which is far from GAC group.. Therefore, to avoid excessive working capital turnover time, BYD should strengthen the management of all channels and speed up the turnover speed.

### 3.3.1 Procurement Channels

According to the table3, BYD's capital turnover days increased year by year from 2018 to 2019, and the turnover efficiency decreased. Among them, accounts payable and notes payable account for a high proportion, accounting for about 33% of the turnover, while material hoarding and prepayment account for 3%, that is, in the future, enterprises should pay more than half of the money to suppliers, and have expectations for the assurance of future funds to ensure the safety of funds.

*Table 3 Proportion of Procurement Elements in Turnover from 2018 to 2019*

Element	BYD		
	2018	2019	2020
Material hoarding	3.72%	2.73%	2.62%
Prepayments	0.28%	0.28%	0.46%
Accounts payable and notes payable	35.59%	28.31%	33.15%

### 3.3.2 Production Channel

From table4,the number of production turnover days decreased year by year, indicating that the capital turnover rate remained relatively stable. It is calculated that BYD's annual salary paid to employees has increased from 38.6 to 48.4, accounting for the highest proportion of turnover, while GAC group accounts for other receivables. On the contrary, BYD's funds for in-process products and other receivables have not increased but decreased, indicating that the operating income of the enterprise has decreased in recent three years and the business condition is poor.

*Table 4 Comparison of Working Capital between BYD and GAC in Production*

project	BYD			GAC		
	2018	2019	2020	2018	2019	2020
In product	117.5	109.8	99.1	1.0	0.9	1.2
Other receivables	10.1	15.6	10.5	44.6	46.8	49.2
Payroll payable	38.6	37.8	48.4	21.9	21.8	24.1
Other payables	86.3	68.2	92.8	95.3	78	89.5

### 3.3.3 Distribution Channel

Although the capital turnover days of BYD are decreasing year by year, there is a big gap

compared with GAC group. The reason is that the accounts receivable of BYD is too high, about 34%, while the accounts receivable of GAC group is about 9.7%, far lower than that of BYD. This hides the risk of bad debts, which also explains the need to manage the enterprise's credit policy.

## 4. Conclusions

### 4.1 Control the Amount of Realizable Funds Held.

Enterprises account for the majority of accounts payable in procurement channels, indicating that they should retain certain funds for future payment. After calculation, due to the decrease of the rapid rate of enterprises year by year, the flow rate increases year by year, which shows that the unrealizable assets of enterprises have become more, and the realizable assets are not enough. Realizable assets are one of the important nutrients to maintain the normal operation of the enterprise. If problems occur, they will involve the business development of the whole enterprise, and then put the enterprise into an irreversible downturn. We should increase the holdings of realizable assets, so that in the case of enterprise economic crisis, realizable assets can solve the crisis, which is conducive to the long-term development of enterprises.

### 4.2 Enhance the Core Competitiveness, and Improve the Enterprise Efficiency.

In recent years, the operating efficiency of enterprises has declined. The one reason is that more and more enterprises enter the new energy industry, and the competition is becoming more and more fierce. At the same time, technology, as the primary factor to improve competitiveness, is worth paying attention to. Therefore, it is necessary to increase R & D investment, focus R & D investment on key technologies, and form irreplaceable products in the industry.

### 4.3 Strengthen the Management of Accounts Receivable.

Enterprises have a lot of accounts receivable, so there are certain potential bad debt risks. When enterprises conduct foreign cooperation, they should establish a credit rating mechanism, which should strengthen the investigation of the target customers, focus on checking its short-term repayment ability and the health degree of cash flow, and give the credit sales amount and credit term according to the different credit conditions of different customers. At the same time, special personnel are set up to be responsible for the traceability and recovery of accounts receivables, pay attention to the operating conditions and development prospects of creditors, rating and classify creditors. If creditors do not manage well, make timely accounts receivable management adjustment plan, and strengthen the collection of accounts receivable.

## References

- [1] Wang Zhuquan and Zhang Xianmin. *Design of working capital management performance evaluation system based on channel management*. *Monthly journal of Finance and accounting*, no.13, pp.11-13, 2012.
- [2] Li Pengfei and Wang Yuanyue. *Research on the choice of working capital management strategy*. *Accounting communication*, no.14, pp.59-61, 2016.
- [3] Guo Yiwei. *Research on the performance of BYD industrial chain integration*. Fuyang Normal University, 2019.
- [4] Cheng Xinsheng and Hou Yucheng. *Research on Optimization of RS company based on supply chain working capital management*. *Friends of accounting*, no.06, pp.69-76, 2019.
- [5] Zhang Xianmin. *Research on the mechanism of supply chain management affecting working capital management performance*. *Finance and accounting (Financial Management Edition)*, no.06, pp.67-70, 2014.