

Cost Control Optimization of JAC Motors from a Value Chain Perspective: An Analysis based on 2021–2024 Financial Data

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Abstract

Under China's 15th Five-Year Plan, traditional car manufacturers like JAC Motors are under growing pressure to improve their value chain management and keep up with industrial changes. This paper uses JAC Motors' financial data from 2021 to 2024 to examine its cost control in four areas: procurement, production, research and development (R&D), and sales. The analysis finds four key problems: (1) high average procurement costs caused by a volume-based bargaining strategy, (2) poor coordination between production automation and quality inspection, (3) low efficiency of R&D spending, and (4) a mismatch between sales spending and actual market needs. These issues prevent the company from achieving the best combination of cost control and value chain performance. To solve these problems, this paper suggests four strategies: adding risk management tools to improve procurement, using data-driven methods to manage all production factors, working with other companies on R&D in weak areas after better market research, and making sales spending more effective by following market trends. These measures can help the company use its funds more wisely, cut costs, and support its shift toward new energy vehicles.

Keywords

JAC Motors, value chain, cost control, automotive manufacturing, new energy transition.

1. Introduction

Cost control is one of the most important parts of corporate financial management. It directly affects product pricing, market competitiveness, and company profits. In China today, economic growth is slowing down and competition in the car industry is getting fiercer, with companies competing heavily on both price and technology. From 2021 to the third quarter of 2025, the price of electrolytic aluminum—a key raw material for making cars—went up by about 85%. At the same time, labor costs in manufacturing grew by around 10% every year. These rising costs have squeezed profit margins across the industry, making it more urgent for companies to find better ways to manage costs.

China's Ministry of Industry and Information Technology and other government departments released the *Automotive Industry Steady Growth Work Plan (2025–2026)*. This policy encourages the use of intelligent connected vehicle technologies and aims to boost car sales. While this is good for the industry's development, it may also widen the gap between strong and weak companies. JAC Motors (Anhui Jianghuai Automobile Group Co., Ltd.) is a listed company whose main products are trucks and passenger cars. However, it currently does not have strong advantages in technology, brand image, management, or market competition. The company has been reporting losses in recent years, which makes it even more necessary to improve cost management and restore profitability.

According to Porter's value chain theory, a company's competitive advantage comes from the way it organizes and performs its value-creating activities^[1]. This paper applies the value chain

perspective to study JAC Motors' cost management in four areas: procurement, production, R&D, and sales. It identifies the existing problems and their effects on value chain performance, and then proposes a new cost management plan that fits both the company's internal and external value chain needs.

2. Literature Review

Scholars have paid increasing attention to combining value chain strategy with cost management. Zhang (2025) pointed out that linking value chain strategy with cost management can help companies match their cost-cutting efforts with long-term goals, leading to better resource use and higher company value^[2]. By looking at costs from a value chain angle, companies can better understand which parts of their operations create value and which parts are weak.

Lacerda, Xambre, and Alvelos (2016) studied the value chain operations of car manufacturers (OEMs) and their first- and second-tier suppliers. They found that traditional cost accounting methods cannot identify waste from activities that do not add value, which is a core issue that weakens cost management^[3]. Liu (2020) studied car manufacturing companies and found common problems such as not paying enough attention to R&D costs, using outdated procurement methods, and not managing production costs strictly enough^[4].

Ding and Zhao (2025) suggested that companies should build digital information platforms, improve cross-department cooperation, and bring business and finance functions closer together to make sure cost management and value chain strategy work well together^[5].

In short, good cost management needs to cover the whole production process from a value chain perspective. But as new energy vehicles become more popular, the value chains of car companies are changing. Old cost management methods may no longer work well enough to truly increase a company's value. Companies need to find new and better ways to manage costs based on the value chain.

3. Current Status of Cost Control at JAC Motors

3.1. Company Overview

JAC Motors was founded in 1964 and went public in 2001. Its registered capital is 1.89 billion RMB. By 2024, the company's yearly revenue was over 40 billion RMB, and it had more than 20,000 employees. Manufacturing revenue made up 92.01% of total income, with commercial vehicles accounting for 52.62% and passenger vehicles for 29.07%. However, JAC Motors lost 1.784 billion RMB in 2024. The first-quarter report of 2025 showed another loss of 223 million RMB. The root cause of these losses is the company's failure to control costs well and build stronger value chain advantages.

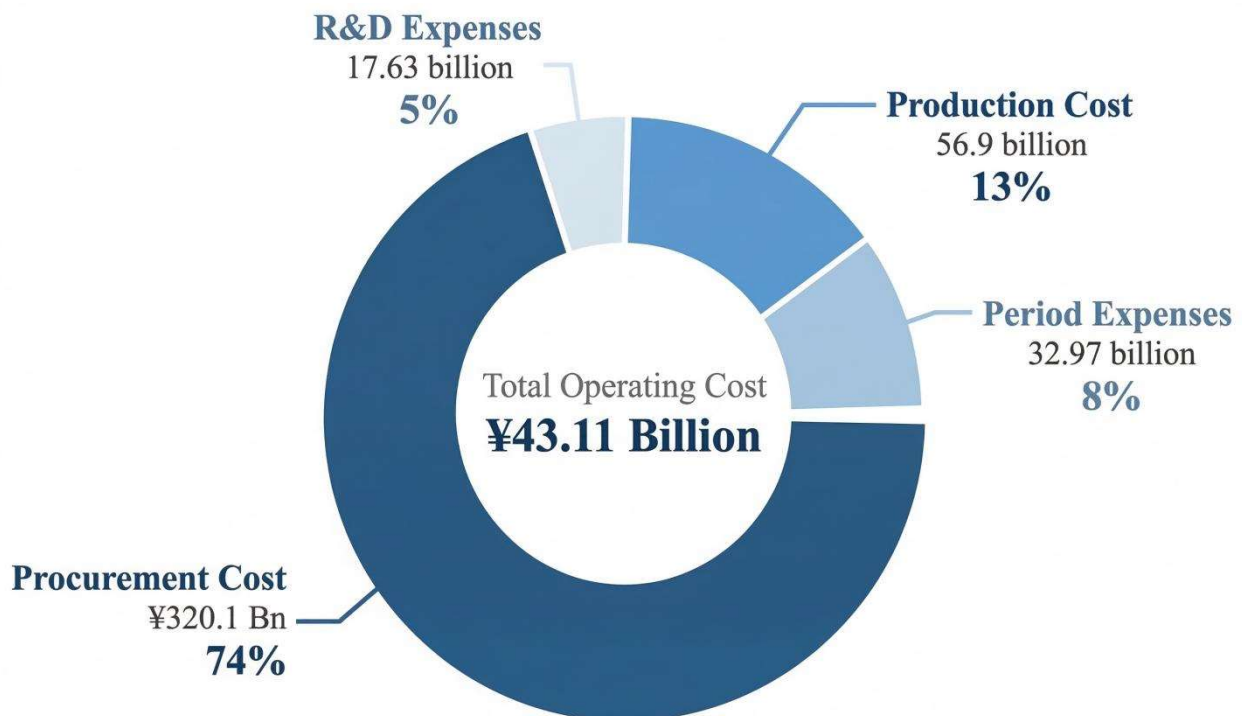
3.2. Cost Structure Analysis

Table 1 shows how JAC Motors' costs were made up from 2021 to 2024.

Over these four years, JAC Motors' total costs first went down, then up, and then down again. From 2023 to 2024, total operating costs dropped from 45.79 billion to 43.11 billion RMB, a decrease of 5.85%. But during the same period, total revenue fell from 45.02 billion to 42.2 billion RMB—a bigger drop of 6.27%. Since costs fell more slowly than revenue, cost control was not effective enough to protect the company's profits.

Table 1. Cost Structure of JAC Motors, 2021–2024 (Unit: 100 million RMB)

Item	2024	2023	2022	2021
Total Operating Revenue	422.0	450.2	365.8	403.1
Total Operating Cost	431.1	457.9	384.5	422.4
Operating Cost	377.0	402.3	334.2	369.3
Procurement Cost	320.1	349.7	290.1	307.9
Production Cost	56.9	52.6	50.3	53.1
R&D Expenses	17.63	15.95	15.37	13.74
Selling Expenses	14.67	14.67	14.58	14.37
Administrative Expenses	17.89	16.55	15.95	17.50
Financial Expenses	0.41	3.52	0.16	2.26



Note: Period Expenses include Selling (¥14.67 Bn), Administrative (¥17.89 Bn), and Financial Expenses (¥0.41 Bn).

Figure 1. Cost Composition of JAC Motors in 2024

As Figure 1 shows, procurement costs were the largest part of total costs in 2024, making up 74% (32.01 billion RMB). Production costs came second at 13% (5.69 billion RMB). Period expenses (selling, administrative, and financial expenses combined) took up 8%, and R&D expenses accounted for 5%.

3.3. Cost Control Practices by Segment

3.3.1. Procurement Cost Control

JAC Motors controls procurement costs in two main ways. First, the company has set up a system to evaluate suppliers based on four factors: quality, delivery, cost, and service. Suppliers are reviewed regularly, and those with serious problems may be downgraded or removed. For important parts like engines, the company uses a “volume-for-price” approach—buying in large quantities to get lower unit prices. Second, since 2024, JAC Motors has used a fully electronic

procurement system. This helps different departments share information and work together, which reduces human errors and unnecessary steps in the buying process.

3.3.2. Production Cost Control

Production cost control at JAC Motors focuses on upgrading equipment and managing labor costs. In 2024, the company worked with Huawei to build the Zunijie S800 factory, which uses more than 1,500 smart robots. These robots handle key tasks like welding, painting, and gluing, which raised production efficiency by about 30% and cut the time needed to make each car by about 25%. On the labor side, the company introduced a pay policy that links wages to business results and worker productivity. In 2024, the company also laid off 1,656 employees, reducing the number of production workers by 20% to cut direct labor costs.

3.3.3. R&D Cost Control

Since 2021, JAC Motors has been spending more on R&D for new energy vehicles. Between 2023 and 2024, R&D spending went from 1.595 billion to 1.763 billion RMB, an increase of 12.41%. The company hired more R&D staff and also partnered with outside companies like Kangmai to share research tasks and costs. This helped shorten development time and improve R&D efficiency.

3.3.4. Selling and Administrative Expense Control

Among all period expenses, selling expenses are the largest. In recent years, JAC Motors has been cutting spending on traditional sales channels and moving toward online marketing. The company uses platforms like Douyin (the Chinese version of TikTok) and Kuaishou for live-streaming car sales to reach more customers at lower cost. It has also set up a performance review system for senior managers and used digital tools to better connect business operations with financial management.

4. Problems Identified in Cost Control

4.1. High Average Procurement Costs from Volume-Based Bargaining

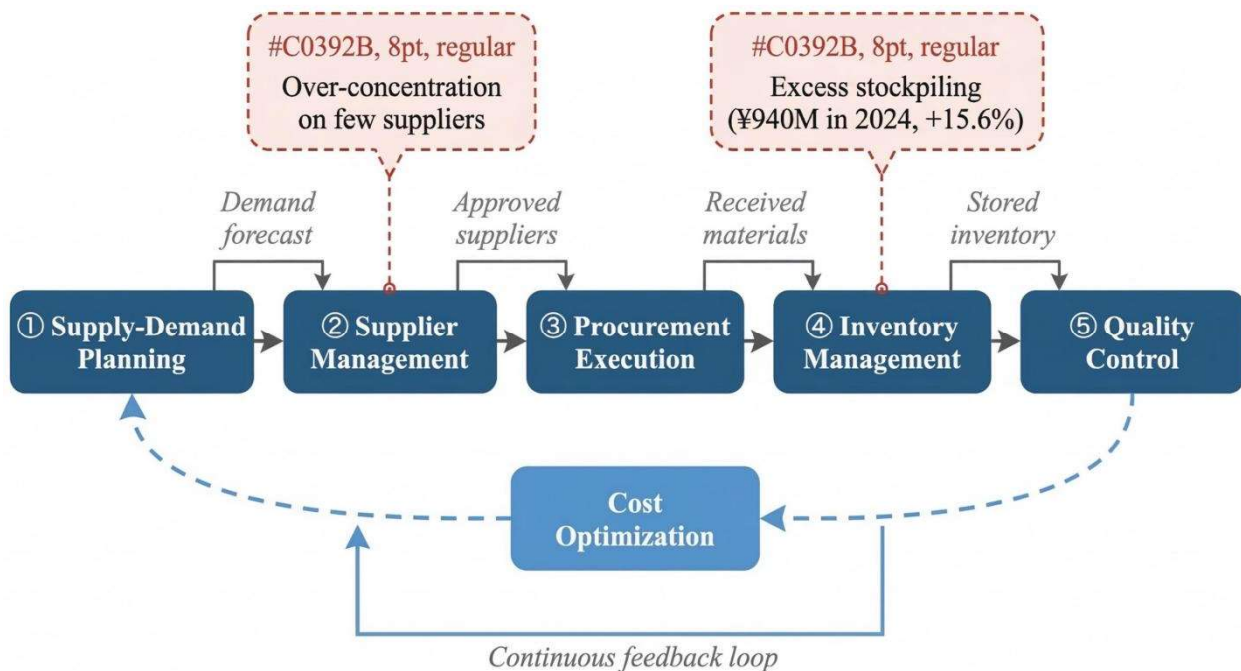


Figure 2. Value Chain of the Procurement Process

From 2023 to 2024, procurement costs fell from 34.97 billion to 32.01 billion RMB—a decrease of only 8.4%, which did not meet the company’s 10% cost-cutting goal. As shown in Figure 2, JAC Motors’ procurement process includes supply-demand planning, supplier management, procurement execution, inventory management, quality control, and cost optimization. The volume-for-price strategy helps with supply-demand planning, but it puts a lot of pressure on supplier management and inventory control.

When a company buys too much at once to get a lower price, it may end up with more raw materials than it actually needs. This leads to a build-up of inventory, which ties up a lot of money and makes it harder to update products or switch to new suppliers.

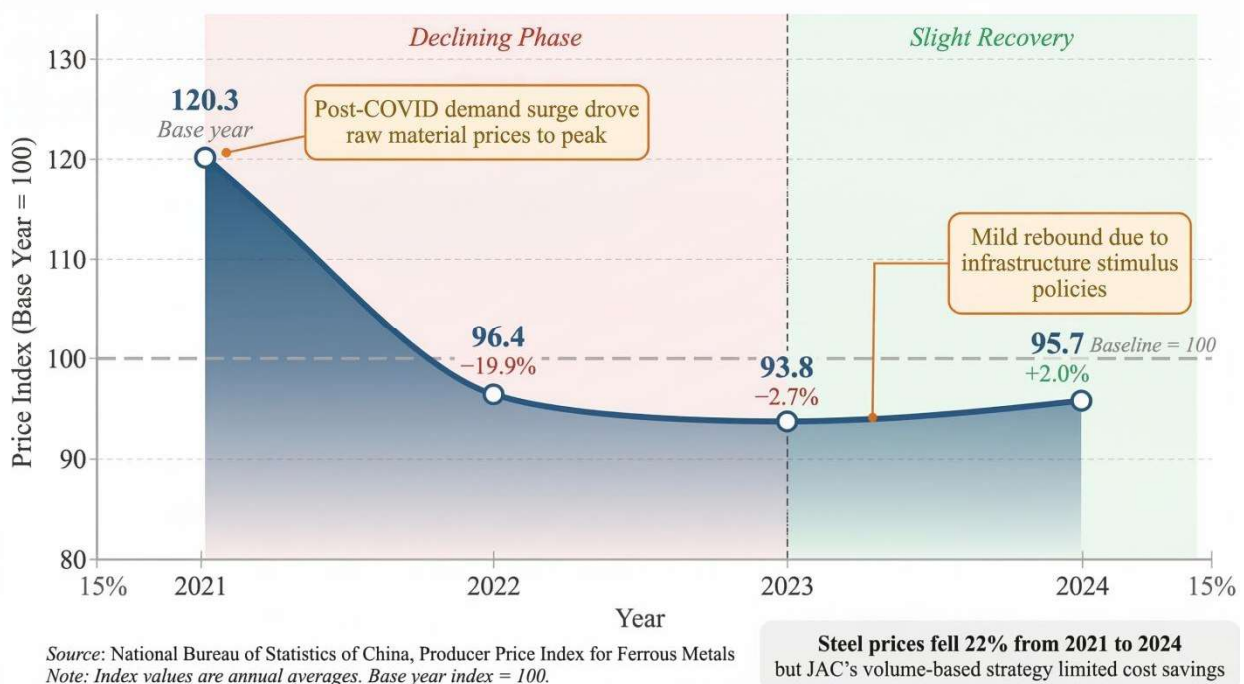


Figure 3. China Ferrous Metals (Steel) Price Index, 2021–2024

Figure 3 shows that China’s steel price index dropped sharply from 120.3 in 2021 to 93.8 in 2023, and then rose slightly to 95.7 in 2024. Even though steel prices fell overall during this period, JAC Motors’ volume-based buying strategy stopped it from taking full advantage of these lower prices. As a result, the company’s average procurement costs stayed higher than they needed to be.

On the inventory side, storing too many raw materials cost the company a lot of money. In 2024, total inventory costs reached 940 million RMB, up 15.6% from the year before. High storage costs hurt the company’s finances. Keeping large stocks of traditional engine parts also makes it harder for the company to move toward new energy vehicles, because those parts may become outdated.

4.2. Poor Coordination between Automation and Quality Inspection

As shown in Figure 4, JAC Motors’ manufacturing process has four main stages: warehousing and delivery, the processing stage (stamping, painting, and assembly), quality inspection, and delivery to customers. Although the company invested heavily in smart equipment in 2024, its actual production dropped significantly. Table 2 shows the key production numbers.

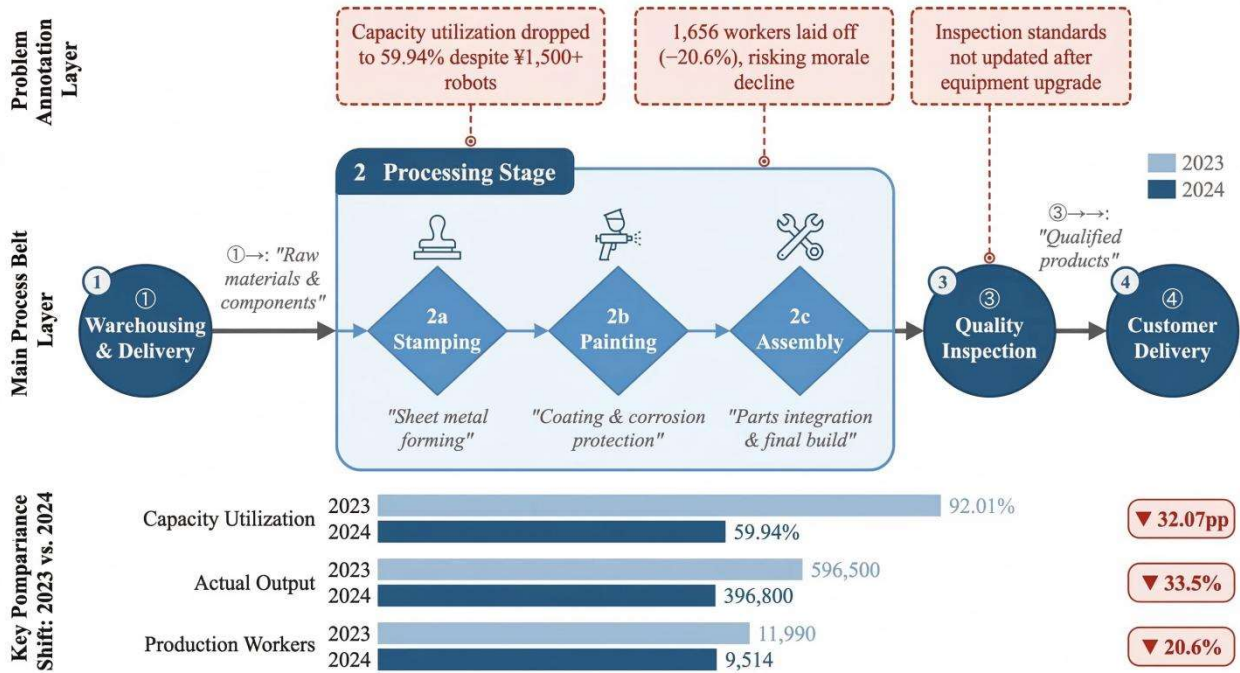


Figure 4. Value Chain of the Manufacturing Process

Table 2. Production Performance of JAC Motors, 2021–2024

Indicator	2024	2023	2022	2021
Actual Output (10k units)	39.68	59.65	50.04	52.30
Capacity Utilization Rate	59.94%	92.01%	71.15%	73.45%
Production Workers	9,514	11,990	11,877	14,432

In 2024, JAC Motors had a total capacity of 662,000 vehicles, but it only produced 396,800. This means the capacity utilization rate was just 59.94%—far below the 92.01% recorded in 2023. At the same time, the company cut 20.6% of its production workers (from 11,990 to 9,514). While this saved on labor costs, it may have hurt employee morale and teamwork. Another problem is that after the new equipment was installed, the company did not update its quality inspection processes quickly enough. The old inspection standards did not match the new production technology, which made it hard to improve both output and product quality at the same time.

4.3. Low Return on R&D Investment

JAC Motors has been increasing its R&D spending every year since 2021, but this investment has not brought enough economic returns. Table 3 shows the R&D data for this period.

Table 3. R&D Investment of JAC Motors, 2021–2024

Indicator	2024	2023	2022	2021
R&D Personnel	6,240	4,843	4,050	4,463
R&D Investment (100m RMB)	34.64	22.34	18.33	17.94
Operating Revenue (100m RMB)	422.0	450.2	365.0	403.1
R&D/Revenue Ratio	8.23%	4.97%	5.02%	4.46%

JAC Motors' main products are still traditional commercial vehicles. But because of the pressure to shift toward new energy, the company has been spending a lot on projects like the "High-End Intelligent Electric Platform." By 2024, sales revenue from new energy vehicles was only 456,500 RMB—a very small share of total revenue. This shows that the company has not been able to connect its R&D efforts with what the market actually needs. The money spent on R&D has not been turned into products that sell well, which puts great pressure on the company's finances.

4.4. Sales Spending Does Not Match Market Needs

In 2024, JAC Motors spent roughly the same amount on sales as in 2023. But its sales revenue fell to 42.2 billion RMB, a 6% drop. The company spent an extra 15 million RMB on advertising for its new "Zunijie" brand. However, without proper public relations support, negative comments from consumers and false price claims about the new products were not dealt with in time. So despite the large marketing budget, the company did not get good results from it.

JAC Motors did start using live-streaming on platforms like Douyin to sell cars online. But it did not make the most of this channel. Other car companies, such as Xiaomi, have had their top executives appear in live streams as "entrepreneur influencers." This personal approach has been very effective for building brand awareness. JAC Motors does not have such a public figure to lead its online marketing, and it has not fully adapted to the new ways customers discover and buy cars. As a result, the company missed chances to grow through these new marketing channels.

5. Recommendations

5.1. Add Risk Management and Improve the Procurement Strategy

To meet the high-quality manufacturing goals of the 15th Five-Year Plan, JAC Motors needs a more careful and strategic approach to procurement that keeps quality high while bringing costs down.

First, the company should set up a risk management system for buying raw materials. The procurement team and the finance team should work together to build a price analysis model that considers government policies and market supply and demand. The company can also use financial tools like futures and options to reduce the risk of price changes, instead of simply buying in bulk and hoping for lower prices.

Second, the company should use the ABC inventory classification method. This means sorting materials into three groups based on their cost and importance. Class A items (high value, small quantity, like engines) should be bought only when needed through just-in-time purchasing, so the company does not keep too much in stock. Class B and C items should be managed by considering how long they can be stored and how quickly they are used. Suppliers should be chosen based on five factors: quality, price, delivery speed, service, and technical ability. In the warehouse, materials should follow the first-in-first-out (FIFO) rule, and inventory records should always be accurate to avoid losses from damage or outdated stock.

5.2. Use Data to Drive Better Production Management

The 15th Five-Year Plan calls for manufacturing to develop in three directions: intelligent, green, and integrated. JAC Motors should take advantage of this policy to improve every part of its production process.

For equipment, the company can sell or rent out machines that are sitting idle. This brings in extra cash and reduces the burden of owning unused assets. For workers, the company should provide training so employees can operate and maintain the new smart equipment properly. A good incentive system that rewards strong performance—along with better employee benefits—

can make workers more loyal and productive. For product quality, the company should install smart monitoring systems that help inspectors catch problems early. Adding traceability codes to parts would make it easier to track down quality issues and hold the right people accountable.

5.3. Do Better Market Research and Partner with Others on R&D

China's 15th Five-Year Plan highlights the importance of developing new technologies to upgrade manufacturing. Leading car companies like Xiaomi and BYD are already putting chips, AI, and other smart technologies into their products. This is the direction the whole industry is moving in. JAC Motors is trying to shift toward new energy vehicles, but most of its products are still traditional cars, and it has not made enough progress in areas like automotive chips.

Before starting any new R&D project, JAC Motors should first set up a special team to study what the market really wants. This will help make sure that R&D money is spent on projects that can actually lead to products people will buy. In areas where the company is not strong enough on its own-like chip technology-it should work closely with companies like Xiaomi and Huawei. Setting up joint research labs can help both sides share costs and speed up development. Most importantly, the company needs to focus on turning research results into real products that meet market demand and bring in revenue.

5.4. Make Sales Spending More Effective by Following Market Trends

JAC Motors needs to spend its sales budget more wisely to get better results. Here are three ways to do this.

First, the company should build a "national heritage brand" image. With over 60 years of history, JAC Motors can position itself as a trusted, established Chinese car brand. Its marketing should focus on what consumers care about most: driving range, appearance, interior quality, technology, and safety. This will make the brand more competitive and help the company get more value from its marketing budget.

Second, product promotion should use popular themes like "green," "new energy," and "intelligent." The company should combine these messages with practical offers like trade-in deals and pre-order discounts. It can also sponsor social causes and run advertising campaigns to reach more people. Holding regular test-drive events at dealerships will let customers try new models in person, which helps build trust and satisfaction.

Third, the company should create a public relations team to keep track of what people are saying about the brand online. When there are negative comments or false claims about products, the team should respond quickly with honest information. If a customer has a bad experience, the company should offer fair compensation. Being open and honest helps build a good brand image. The company can also do charity work and disaster relief to show social responsibility, which will help its reputation and support future marketing.

6. Conclusion

This paper studied JAC Motors' cost control from a value chain perspective, using the company's financial data from 2021 to 2024. Four main problems were found. First, the volume-based buying strategy led to high average procurement costs because it did not respond well to changes in market prices. Second, production capacity was underused because the new automated equipment was not well matched with quality inspection standards. Third, R&D spending did not lead to enough commercial results. Fourth, sales resources were not used effectively because they did not keep up with changing consumer preferences and new marketing channels.

To address these problems, this paper recommends four strategies: using risk management and ABC classification to improve procurement, using data to optimize production, partnering with

other companies on R&D after doing proper market research, and building a stronger brand to make sales spending more effective. These measures can help JAC Motors use its money more wisely, cut operating costs, and compete better as the car industry moves toward new energy vehicles. The findings of this study also have practical value for other traditional car manufacturers facing similar challenges in China.

This study has some limitations. It only uses publicly available financial data, which may miss some details about what is happening inside the company. It also does not include first-hand data like employee surveys or supplier interviews, which limits how deeply we can explain the causes of the problems. Future research could combine case study methods with financial data analysis to better understand how value chain management affects cost control in the car industry.

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