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Research on Sustainable Competitive Advantage Strategy of Leading Electric Vehicle Enterprises

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Abstract: This article uses qualitative methods to study the competitive environment of A Co Company Limited and develop a sustainable competitive advantage strategy. Using documentary analysis, semi-structured interviews, and questionnaire surveys to collect preliminary data, a total of 50 internal employees participated in this study's questionnaire survey. We validated the data using PESTEL and core competitiveness analysis methods, and developed internal factor analysis matrices and external factor analysis matrices to generate the final factor evaluation scores. Research has shown that A Co Company Limited operates in a highly competitive environment. The company shows strong advantages in production services, marketing services, financial management and technological innovation, but there is still room for improvement in sales services. Based on SOTAR analysis, this paper proposes competitive advantage strategies.

Keywords: SOTAR Analysis; Competitive Strategy; Electric Vehicle Enterprises.

1. Background

Since entering the 21st century, with the outbreak of China's automobile industry, not only did multinational automobile companies and state-owned enterprises invest more and faster in the automobile market, but domestic private enterprises also stepped into this industry and injected capital to participate in the competition. At present, China's new energy vehicles are mainly passenger vehicles, with commercial vehicles as a supplement, and pure electric vehicles as a supplement, along with plug-in hybrids. Cities with the largest sales volume of passenger vehicles are concentrated in Beijing, Shanghai, Guangzhou, Shenzhen, and other cities with limited license plates. Data from 2019 showed that customer groups were gradually penetrating into second and third-tier cities without limited license plates. The proportion of A00 cars decreased, while the proportion of A-class cars increased. Private consumers became the main purchasing force in the field of new energy vehicles.

2. Research Objectives

1 To study the competitive environments of A Co Company Limited.

2 To formulate the sustainable competitive advantage strategies of A Co Company Limited.

3. Scope of the Study

A Co is selected to conduct a questionnaire survey on its employees. In the form of questionnaire, 50 internal employees are selected to investigate the current situation of market competitiveness, including industry analysis, consumer purchase factors and competitor analysis. Basic characteristics of target (potential) respondents. The SOTAR analysis framework, which consists of strengths, opportunities, threats, aspirations, and results, has been utilized as a blueprint for defining a sustainable competitive advantage strategy.

4. Research Design

This study employs a qualitative method in order to achieve its objectives, which include obtaining a sustainable competitive advantage strategy. To gather the necessary information, two sources of data are utilized: primary data and secondary data. Primary data is collected through a questionnaire and semi-structured interviews to select the study sample. The selection of the study sample is done using purposive sampling, which takes into account specific characteristics and the results of A Co. Secondary data is obtained from prior research studies, reports, and documents related to A Co. In order to conduct a thorough analysis of A Co, we carry out extensive research and in-depth interviews with experts. This allows us to examine both the external and internal environments of the company. Once we have identified the crucial factors that impact the company, we proceed to evaluate its strengths, weaknesses, opportunities, and threats through the External Factor Evaluation (EFA) and Internal Factor Evaluation (IFA). These identified factors are then utilized in the SOTAR analysis to devise strategies that can establish a sustainable competitive advantage.

4.1. Questionnaire & Interview Data Analysis

To establish the overall survey, it is necessary to consider the total number of internal employees, which amounts to 50 individuals. Select the sampling box. Because the sampling method selected in this survey is simple random sampling, that is, online and offline random sampling in A Co, the sampling frame of this survey is abstract.

4.2. Collect Sample Data, Randomly Select Samples, and Calculate Sample Indicators.

Infer the overall indicators of the survey. Precautions for sampling: Since there is no fixed sampling frame in this sampling, the questionnaire distribution specialist must randomly select samples, which are the respondents for the investigation. However, during this sampling process, the questionnaire distribution specialist should not incorporate personal preference factors into the sampling, and should

make selections based on the principles of objectivity and fairness. Experts were interviewed, and brainstorming sessions were conducted to formulate the sustainable competitive advantage strategy.

4.3. Identifying the External Factors that Impact the Enterprise

Analyzing and assessing the significance of each external factor on A Co's new energy vehicles in order to determine their respective weights. The weight of each factor falls within a numerical range of 0.00 (unimportant) to 1.0 (very important). The importance of each factor is expressed through numerical values, and the sum of all factor weights equals 1.0.

Evaluating the effectiveness of the enterprise's current competitive strategy in response to each key external factor. This evaluation is assigned a score ranging from 1 to 4, representing four categories: poor, average, good, and very good.

Multiplying the weight value of each external factor by its corresponding score value to obtain the weighted score for that factor. The weighted scores of all factors are then added together to derive the total weighted score.

4.4. Internal Factor Analysis (IFA)

The steps of establishing the internal factor evaluation matrix are as follows:

(1) Identify the primary internal advantages and disadvantages of A Co's new energy vehicles.

(2) Assign a weight value to each internal factor based on its degree of influence, ranging from 0.00 (unimportant) to 1.0 (very important). The importance of each factor is expressed through numerical size distribution, and the sum of all weights equals 1.0.

(3) Evaluate each factor using a scoring system. Assign a score of 1 or 2 to indicate important and secondary disadvantages, respectively, and assign scores of 3 or 4 to indicate secondary and important advantages, respectively.

(4) Calculate the total weighted score by adding up the weighted scores of each factor.

In the aforementioned analysis, to determine the weight of opportunities and threats, an expert group consisting of 10 senior employees from A Co and above was formed and empowered. The sum of the weights for each factor equaled 1. During the grading process, 50 personnel from the company, including senior, middle, and grass-roots employees, were invited to grade all the elements. The scores were then summed up to calculate the tie value (rounded). Finally, the evaluation score results were obtained.

5. Research Results

5.1. Evaluation Result of Core Competitiveness of a Co New Energy Enterprise

The indexes in the factor layer are scored by expert scoring methods, and the scoring results are shown in Table 1

Table 1. Core competitiveness evaluation score table of A Co new energy enterprise

Target layer	Comprehensive evaluation layer	Weights	Factor evaluation layer	Weights	Evaluation score	Rating
A Co new energy vehicle competitiveness	Technological innovation ability A1	0.26	Independent research and development ability A6	0.088	90.89	strong
			Research and development expenditure into A7	0.082		
			Number of R&D personnel A8	0.32		
			Number of core technologies A9	0.46		strong
	Production service capacity A2	0.36	Product delivery capacity A10	0.256	60.51	General
			Product Line Layout A11	0.616		
			Product Quality Control A12	0.188		
			Single-ride margin A13	0.129		
	Marketing service ability A3	0.19	New energy vehicle sales A14	0.392	72.40	General
			Order delivery Increase A15	0.456		
			Customer perception situation A16	0.268		
			Brand premium power A17	0.098		
	Financial management ability A4	0.12	Profitability A17	0.689	61.41	General
			Capital Size A18	0.195		
			Budget control capability A19	0.196		

Table 2. (Cont.)

Target layer	Comprehensive evaluation layer	Weights	Factor evaluation layer	Weights	Evaluation score	Rating
	After-sales service capability A5	0.06	Network layout A20 before and after sale	0.284	44.85	Weaker
			Sales management ability A21	0.617		
			Quality of service personnel A22	0.292		
			Emerging service level A23	0.572		

Based on the evaluation and analysis results of A Co's new energy competitiveness based on the aforementioned research in this paper, it can be seen that A Co's overall ranking is technical innovation ability 90.89> marketing service ability 72.4> production service ability 61.41> financial management ability 60.51> sales service ability 44.85.

First and foremost, the above discussion reveals that the technological innovation factor is the key determinant in the value chain of new energy automobile enterprises' competitiveness. A Co's technological innovation capability is assessed at 90.89 points, indicating a high level of evaluation. Considering A Co's actual situation in technology research, development, and management, it is evident that the company has consistently augmented its investment in high-tech personnel, thereby establishing itself as a leading global industry technology provider.

Second, the production capacity is weak, quality control is not pass. Poor product quality is a prominent problem in A Co's competitiveness management at present. The research of this paper also found that the evaluation score of A Co in terms of production and service ability is 60.51, the evaluation grade is average. This indicates that A Co has great room for improvement in product quality at present. From the actual situation, although the layout of A Co's product line has been improved, the quality control ability of its products is still poor, which leads to the overall low recognition of the quality of A Co's new energy products by users.

Thirdly, in terms of brand marketing mode, A Co scored 54.41 in the evaluation of marketing service ability, which was average. From the actual situation, most of A Co's marketing staff still follow the traditional thinking that as long as the product is sold out, the whole transaction will be over. Although A Co has improved its product familiarity to some extent by introducing new products and increasing marketing efforts in recent years, in general, customers' perception of A Co is still relatively traditional. As a brand with excellent sales performance, A Co has not been able to achieve brand status consistent with its market performance.

Fourthly, A Co's profitability is weak. Weak profitability is also a prominent problem existing in A Co's competitiveness management. Judging from the evaluation result of A Co's core competitiveness, the evaluation score of its financial management ability is 64.41 points, which is relatively low compared with A Co's volume and sales ability. A Co's R&D and production investment is large, but its profit is still small. Meanwhile, considering the experiences of both domestic and foreign new energy automobile companies in enhancing competitiveness, it is evident that R&D investments require a lengthy return on investment period. In order to enhance the overall profitability of new energy vehicles, it is imperative to enhance production efficiency and minimize production costs. In terms of actual performance, the production and manufacturing of new energy vehicles still heavily rely on financial subsidies provided by the government. Consequently, if the government's policy incentives vanish, A Co would encounter financial risks.

Fifth, A Co's performance in sales and service is weak. A Co adopts the sales mode of traditional dealers. As a new energy vehicle enterprise, this sales mode has gradually shown its disadvantages. At present, A Co has certain problems in sales network layout and after-sales service. Due to A Co's lack of continuous tracking and supervision of the supporting infrastructure services for new energy vehicles, it becomes challenging to promptly gather diverse and complex issues related to the usage of such vehicles from customers. Consequently, numerous users' express dissatisfaction with A Co's new energy vehicle service, which ultimately has an adverse impact on the brand reputation of A Co's new energy vehicles.

5.2. Sustainable Competitive Strategies Proposed According to SOTAR Analysis

A Co employs sustainable competitive advantage strategies based on technological Leadership and Innovation. The company's primary focus is on improving the overall performance of their electric vehicles (EVs) by enhancing energy efficiency, extending battery range, and reducing charging time. The second strategy centers around vertical integration and supply chain management. A Co optimizes supply chain efficiency and cost reduction by leveraging its well-established industrial chain and expertise in automotive battery production and driving technology.

A Co's market expansion and brand building strategy involve leveraging its well-established industrial network and knowledge of automotive battery manufacturing and driving technologies to enhance supply chain effectiveness and reduce costs. A Co should use the partnerships and alliances strategy by working together with other industry participants, both local and foreign, to leverage complementary resources and skills. Furthermore, A Co should employ a customer-centric strategy by continuously understanding customers' requirements and preferences through feedback, reflecting these insights in product development and improvement. Additionally, the company should offer competitive pricing to attract price-sensitive clients and gain market share by leveraging A Co's cost advantage.

5.3. Recommendations

5.3.1. Practical Recommendation

1) Improve product competitiveness

Traditional vehicles focus on both developing new energy vehicle products and upgrading existing energy vehicles. In the future, A Co should capitalize on the current market opportunity and prioritize product research, development, and technological advancement as its primary business. The performance of traditional energy products, however, is crucial to A Co's development over the next three to five years as they currently provide the backbone of the company's

major operation and revenues. Although A Co now offers a wide selection of traditional fuel vehicles, none of them are at the top of their respective market groups. A company needs to keep improving its ability to compete in the market for traditional fuel cars, and research and development for new goods or the replacement of outdated models needs to be gradually sped up.

A company should strategically position its main products in the family automobile market, considering the current state of the market's overall structure. While A Co's product lineup in the SUV industry has mostly shown improvement, it is still necessary to introduce new goods utilizing Qin's technology into the vehicle market. This will help expand the market's consumer base. To effectively manage the risk associated with the reform of new energy products, it is advisable to gradually supply pure electric or fuel cell products in both market categories. Moreover, product development should prioritize the advancement of research and development in new energy products, enhance the ability to counter threats from Tesla, internet vehicle production, and other factors, and gradually move away from the traditional model transformation approach.

To continuously improve consumers' perception of the A Co brand, we will focus on product upgrades and gradually establish a new brand image. A Co will integrate brand strategy with product strategy, aiming to enhance the quality of both traditional and new energy automobiles. By leveraging our excellent product reputation, we can reinforce the brand's image. We should also consider repositioning the brand to align with new energy automotive products and explore category brand management to bridge the gap with existing premium brands. A Co needs to address changes in the source product's risk management capacity. Furthermore, it is essential to accelerate research and development efforts for new energy products. We must increase our preparedness for risks arising from competitors like Tesla and the rise of internet-based auto production. It is crucial to progressively shift away from the traditional model transition in our product development approach.

2) Actively carry out strategic cooperation

Cooperation with other businesses is a mutually beneficial and win-win strategy for better survival and long-term development. Such strategic collaboration is crucial for resource allocation and production structure adjustment since it can increase competitiveness, lower transaction costs, and increase efficiency. In terms of product quality, A Co's new-energy automotive industry has some drawbacks compared to conventional old-line automobile firms. A Co has so far formed collaborations with mobile phone makers like Apple and MOTOROLA to advance the technology for making batteries.

As it moved up the value chain, it worked with reputable suppliers like Bosch to guarantee the quality and supply of auto parts. In the area of new energy vehicles, thorough screening of allies is needed in order to maximize complementary strengths, take advantage of economies of scale, lower manufacturing costs, and realize resource integration to boost efficiency and competitiveness. It is possible to integrate A Co's new energy car industry with well-known companies like Tesla and Toyota. Excellent engineers of A Co new energy vehicles can be encouraged to collaborate on research, production, and manufacturing with excellent engineers of powerful automobile enterprises, and exchange production and design skills, ensuring that the market accepts A Co's products well. To achieve the lowest service cost, take note of Tesla's sophisticated market strategy, market development, and after-sales service. When it comes to enhancing research and development and management skills, A Co can engage in school-business collaboration, targeted training, and other initiatives. It can also utilize the strong scientific research capabilities of colleges and universities, intensive high-tech talent pools, strong scientific research, more advantageous labor prices, and other characteristics to support the ongoing expansion of the new energy vehicle industry.

3) Improve innovation ability

Utilize digital opportunities to strengthen your capacity for innovation, advance the manufacture of new energy vehicles, advance the realization of your product cost leadership strategy, and ease the implementation of your cost leadership strategy. The world is changing now, and the automobile industry must adapt to the new landscape. We must seize the digital potential if we are to realize the transformation and modernization of the automotive industry. It is especially crucial for A Co to realize the transformation and upgrading of new energy vehicle manufacturing through digitalization as a national enterprise that has been active in the new energy automotive industry for a long time. It's crucial to seize the opportunities presented by the digital age, keep innovating, work hard, and make an effort to raise the bar for intelligent manufacturing in China. Big data is now a crucial resource and the foundation of businesses in the Internet era. Data can be separated out and evaluated once more during the data collection process to provide more rules. These regulations are very beneficial for new energy vehicle technology advancement, quality enhancement, production speed, and cost management. channel innovation is encouraged.

We are accustomed to dealers placing orders on-site in order to sell new energy vehicles. We can use Taobao, Jingdong, Suning Shopping and other sizable shopping websites, wechat, Weibo, Douyin and other new media to implement online ordering, provide more streamlined and effective ordering and after-sales service, shorten service realization, and cut costs in response to new development opportunities. Encourage new environmental technologies. One of the few domestic companies that lead the way into the new energy sector is A Co. It enjoys a high social position in the new energy sector and is present in the majority of activities related to standard industrial customisation. As a result, A Co has an edge in encouraging industry-wide environmental measures. A Co Company can actively promote the new energy sector through trade associations, exhibitions, internet platforms, and other channels in order to increase public awareness of the new energy car sector, foster social acceptability of green consumption, and other objectives.

5.3.2. Recommendation for Future Research

1) Future research can go deeper into the specific technological developments and inventions that have aided A Co's competitive advantage in terms of technological leadership and innovation strategy. This could involve researching the advancements in battery technology, electric vehicle (EV) technology, and other related technologies that have propelled A Co to the top of the sector. It would be beneficial to look at how these technical developments affected A Co's market position, customer perception, and financial performance.

2) More in-depth analysis of A Co's customer-centric

initiatives is required, with an emphasis on getting consumer feedback and incorporating their preferences into product development. This can entail researching how A Co's pricing tactics, customer service programs, and cutting-edge ownership models affect how satisfied and loyal customers are. It would be possible to determine how effective these customer-centric initiatives are by examining how they affect A Co's market performance and customer retention.

3) The conclusions of this study seem to be supported by qualitative analysis techniques, like the SOTAR analysis based on appreciative inquiry. Future research might use quantitative analysis methods to give a more thorough knowledge of A Co's sustainable competitive advantage strategies. This could entail gathering and studying information on market trends, financial metrics, key performance indicators, and customer satisfaction levels. Regression analysis and hypothesis testing are two statistical analytic techniques that researchers can use to draw more solid and trustworthy results.

6. Conclusion

The research findings concludes that the competitive environments of A Co are as follows.

Firstly, by conducting a PESTEL analysis, we gain an understanding of the competitive landscape encountered by new energy automobile companies. This paper concludes, based on an examination of the macro and industry environments of A Co's new energy automobile industry, that it currently enjoys a relatively stable and comprehensive external macro environment.

Secondly, the competitiveness of Chinese new energy automobile companies is assessed using the value chain theory, employing a core competitiveness evaluation model. This model is built upon a comprehensive evaluation index system, consisting of five key indicators: technological innovation capability, production service capability, marketing service capability, financial management capability, and sales service capability. To construct the evaluation and analysis model for assessing the competitiveness of new energy automobile companies, a combination of the analytic hierarchy process (AHP) and fuzzy evaluation method is employed.

Thirdly, as a representative new energy vehicle enterprise with good market performance at present, A Co's core advantages are mainly reflected in the ability of technological innovation. A Co also has advantages in production service ability, marketing service ability, financial management ability and other aspects, but there is a big gap in sales service ability.

The research findings reveal several opportunities for A Co, including: 1) The disposable income of potential consumers has increased 2) The market scale continues to expand, attracting new customers 3) The battery development technology is continuously improving, leading to reduced production costs 4) Utilizing artificial intelligence for more accurate consumer demand prediction and 5) National macro policy support for the new energy automobile industry. However, A Co also faces similar threats, which include: 1) Decreasing state subsidies for new energy vehicles year by year 2) The emergence of new vehicle alternatives, such as high-speed rail and electric balance cars 3) Competitors in the same industry maintaining stable market share 4) Increasing customer demand for battery safety and 5) Traditional automobile enterprises entering the field of new energy vehicles.

Furthermore, the research findings conclude that A Co has strengths in the following areas: 1) Brand awareness 2) Capital enrichment 3) Core technological advantages 4) Strong suppliers and supply chain and 5) Stable human resources reserve. However, there are weaknesses that encompass the following aspects: 1) Low return on investment 2) Less than ideal customer satisfaction 3) Low degree of product diversification 4) Low degree of business internationalization and 5) Declining profit trends.

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