

Ecovacs: Service Robot Industry Advantages and Existing Problems Analysis and Future Financial Development Planning and Strategy

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Abstract

This article analyzes the accounting case of Ecovacs, explores the advantages and existing problems of the service robot industry represented by Ecovacs, and formulates plans and strategies for future industry or industry development for significant problems. Cobos is mainly committed to the R&D, manufacturing and sales of home service robots and smart home appliances. Its "Kovos" brand is in the design, research and development of household service robots and other fields. Today, the product line of home service robots owned by Ecovacs has become a pioneer in the global home service robot industry and a setter in the home service robot industry. This paper adopts the research method of case analysis, combines theoretical analysis and case study, and takes Ecovacs' financial situation and development strategy in recent years as the research object. For the business situation of Cobos, through the SWOT analysis, at the same time, the company's future overall development planning and implementation plan are described in detail. Combined with the planning and implementation plan of the overall future development, it provides data support for our proposed strategic plan.

Keywords

Accounting; Cobos; Eeping Robot; Financial Analysis; Financial Forecasting.

1. Introduction

China has turned to a stage of high-quality development, building a modern economic system, and building a new picture of a better life, which urgently needs the strong support of emerging industries and technologies[1]. As an important carrier of emerging technologies and key equipment of modern industries, robots lead the digital development and intelligent upgrading of industries, and constantly breed new industries, new models and new formats. As an important tool for human production and life and a powerful assistant to deal with population aging, robots continue to promote the improvement of production levels and quality of life, and effectively promote sustainable economic and social development[2].

Cobos is mainly committed to the R&D, manufacturing and sales of home service robots and smart home appliances. In the early days of its establishment, Ecovacs did not have any technical background. Vacuum cleaner OEM was its main business, from the beginning of OEM for small brands to well-known big names such as Philips and Panasonic[3,4]. Relying on years of OEM experience, Ecovacs has invested a lot of financial and material resources into the field of research and development and transformed into a company that manufactures ODM for foreign companies, and at the same time established its own brand "Ecovacs" in China. In China, the company focused on brand building and marketing strategy, and completed the company's transformation from ODM to OBM[5]. At the same time, since 2000, Ecovacs began to explore household robots. After seven years of exploration and development, Ecovacs launched the "Dibao" robot in 2007[6]. Since then, Ecovacs has continuously improved its sales model and

product chain. Through online and offline multi-channel sales and full-coverage product positioning, Ecovacs has become the first brand of domestic household robots in one fell swoop[7].

As a leader in the household service robot industry, Ecovacs has been deeply involved in the industry for many years, but has not forgotten its original intention and continued to fulfill its social responsibilities. Ecovacs has always been committed to the mission of "let robots serve the global family" so that more people can enjoy technology Smart life brought about by innovation. On the other hand, Cobos has insisted on holding robot imagination shows for many years to help college students develop social practice, actively complete the important task of talent training and output, and lay the foundation for future technology and talent innovation.

In recent years, Ecovacs has continued to lay out the entire vertical industrial chain, and has led and participated in the formulation of a number of domestic and foreign industry standards, accelerating the construction of industry talents through various forms, and promoting the innovation and development of the industry. Under the continuous impact of the epidemic, the global supply chain has been deeply affected, and the advantages of having a self-sustaining industrial chain have gradually become prominent. Cobos has strong strength in R&D and industrial chain layout. Focusing on the core functions of robots, perception, intelligence, and interaction, related technologies from hardware to software, Cobos has laid out early and has self-developed capabilities for core hardware components. and industry leadership in software.

According to the financial report data of Cobos over the years, from 2018 to 2021, the total turnover of Cobos has increased from 2.474 billion yuan to 12.084 billion yuan. In 2021, Ecovacs will rank first in the industry with 42.2% of brand sales in the online market, and 84.4% in offline markets, demonstrating its well-deserved "dominance" in the industry. Although the proportion of sales of Covacs brand ranks first in the industry, there are still some problems that cannot be ignored. This paper conducts a relatively comprehensive analysis of the company through financial analysis, SWOT analysis, strategic analysis, and financial forecasting. After understanding the current problems, it proposes strategies and plans for future development to promote the perfection and development of the industry.

2. SWOT Analysis

2.1. Advantage Analysis

2.1.1. Technical Advantages

As the pioneer of my country's home service robot industry, Cobos has owned industry-leading patented technology after more than 20 years of research and development. At the same time, Cobos attaches great importance to research and development and provides financial guarantee for it. Compared with the current OEM mode of enterprises in the same industry, it also provides practical experience for its research and development.

2.1.2. Branded Advantages

Through more than 20 years of deep cultivation in the market, Cobos has cooperated with large e-commerce platforms such as Tmall, JD.com, and Suning through online channels, and pays more attention to price advantages; offline, through the establishment of experience stores covering large and medium-sized cities, it pays more attention to product promotion, has been ranked first in the domestic industry brand and market share for many years. Internationally, in recent years, Ecovacs has focused on overseas development. Through cooperation with the famous international e-commerce platform Amazon, Ecovacs has become the top three brands in the market share of sweeping robots in the US and European markets in 2017.

2.1.3. Advantages of Independent Production

In terms of production, Cobos, which started as an OEM business, has a mature production line and a large-scale factory building, and large-scale production brings strong bargaining power, which provides a guarantee for its supply chain integration. It also brings higher cost performance. Cobos raw material suppliers are all top in the industry, and important parts are backed up by domestic suppliers. At this stage, Ecovacs has been able to realize independent production of mid-to-high-end products.

2.2. Disadvantage Analysis

2.2.1. Lack of High-end Technical Talents

Service robots are technology-intensive, talent-intensive and capital-intensive industries. my country has become the largest market for robots in the world, and maintains rapid growth every year, but the quantity and quality of talent reserves are stretched, especially technical talents engaged in professional R&D and application. First of all, service robot is a cross-compound field, involving many professional fields such as machinery, mechanics, electronics, etc., so it has high requirements for talents. Secondly, service robots are an emerging industry, and the education and training system of universities in this field is still in its infancy. Although there are many laboratories and industry-university-research cooperation, there are still few domestic universities that can cultivate such high-end talents on a large scale.

2.2.2. Financial Pressure

The basic research and development of cutting-edge technology requires a large amount of capital investment. With the continuous improvement of the intelligence of home service robot products, it is necessary to continue to invest a large amount of research and development funds for basic and forward-looking research and development in order to complete the technology accumulation required for the launch of the next generation of products. , which has greatly raised the entry threshold for the future home service robot industry, and made technologically innovative companies in the industry face greater financing pressure, which has become an important factor restricting the development of the home service robot industry. Cobos profitability analysis table is shown in Figure 1.

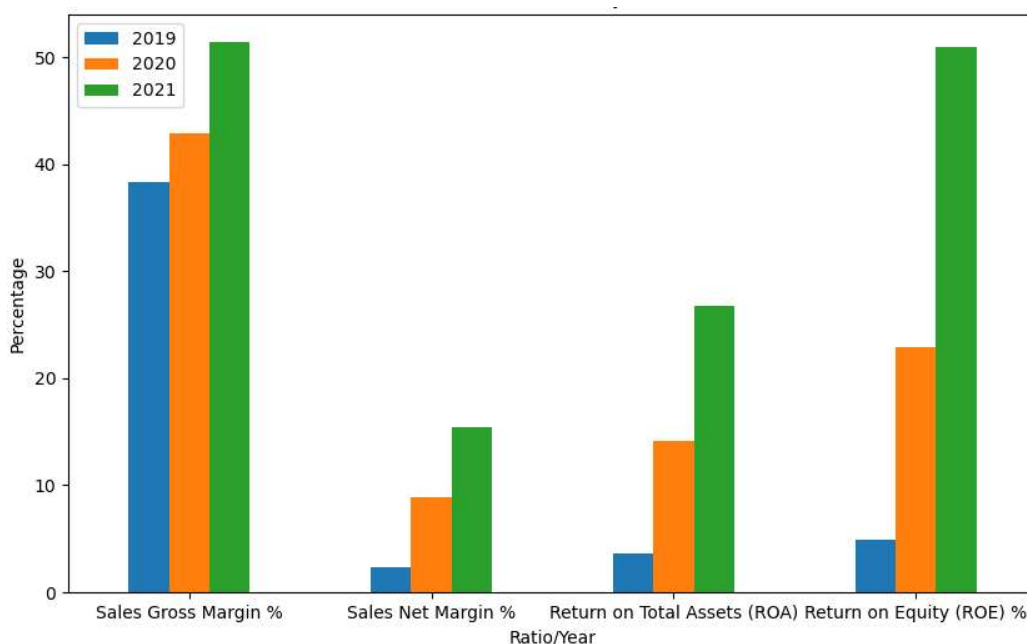


Figure 1. Financial Ratios by Year

2.3. Disadvantage Analysis

2.3.1. The Phenomenon of Aging is Prominent and Labor Costs are Rising

According to the data released by the National Institute on Aging in the United States, the world's elderly population will reach 1 billion in 2020. With the intensification of aging, on the one hand, with the gradual increase of the elderly, there will be a shortage of suitable-age labor force, which will lead to an increase in labor costs, forcing people to hand over simple and routine work to robots; on the other hand, with the deepening of aging, the needs of ordinary families for daily care and family medical health will gradually increase, and home service robots can alleviate or even meet this. An important solution to the phenomenon, so the industry has great potential.

2.4. Threat Analysis

2.4.1. Intensified Competition in the Industry

The sweeping robot has ushered in rapid growth in recent years and has become another explosive product of home appliances. Many manufacturers have also entered the field of sweeping robots. Now in the domestic sweeping robot market, there are many domestic and foreign brands. The current main competitors of Ecovacs include new Internet brands such as Mijia and Stone Technology, as well as established manufacturers such as Midea, Haier, and iRobot. At the same time, the mature domestic foundry industry chain also provides support for other companies to participate in cross-border competition.

2.4.2. The Global Economy is Slowing Down, Product Demand is Decreasing, and Industry Reshuffle is Intensifying

Affected by the epidemic, the IMF's latest "World Economic Outlook" predicts that the global economy will shrink by 2% in 2020, and China's economic growth will slow down to 1.2%. With the economic downturn, the bankruptcy of small and medium-sized enterprises and the increase of the unemployment rate will follow. The demand for high efficiency reduces the demand for robotic products.

3. Plans that Can Be Implemented in the Future

According to the three-dimensional one-center strategic plan of Cobos Enterprise, the implementation plan for the next three years of the "four-dimensional model" has been set. This four-dimensional model includes "R&D innovation", "marketing promotion", "brand promotion" and "corporate value".

3.1. Increase R&D Investment and Promote Technological Innovation

3.1.1. Technical Innovation Implementation Requirements

(1) Implementation requirements for technical upgrades of products:

Realize the development of products from basic cleaning functions to improve cleaning efficiency and cleaning quality, plus upgrades in areas such as sensors and algorithms, to achieve integration with AI technology, laser and vision technology. Ecovacs combines AI technology with floor scrubbers to bring users a breakthrough technology - AIVI™ artificial intelligence and visual recognition system. Through the upgrading of technology, the washing machine has the ability to see, think, and learn, and increase the experience and intelligence of the product.

(2) Product innovation upgrade implementation requirements:

The iterative innovation of technical products of Cobos self-cleaning machine requires upgrading in the following three aspects:

① Mainly based on random cleaning technology. Adopt the three-stage cleaning structure of "side brush + rolling brush + suction port", large cleaning algorithm and random collision cleaning route to improve the coverage of the cleaning area, make the robot clean more thoroughly, and pay attention to the noise of the scrubber and weak suction.

② Emphasis on planning and cleaning has become the mainstream technology. Launched the first 240-degree rotating laser rangefinder + SLAM algorithm sweeper. The coverage rate of a single cleaning has reached more than 70%, and through real-time positioning and map construction, the cleaning coverage and efficiency have been greatly improved.

③ Core technology is established, and functional innovations such as integrated sweeping and dragging, all-round base stations, and human-computer interaction are carried out. Ecovacs launched the first scrubber with sweeping and dragging integrated 2D structured light navigation function, and is committed to launching a scrubber with all-round base station, built-in language interactive assistant and other functions.

The upgrading and iteration of the product enables further innovation and development of the product technology, and the product development direction is continuously improved and developed in the direction of intelligence and personalization.

3.1.2. Technological Innovation Implementation Measures

(1) Study technology and launch high-quality products with "high IQ"

A major pain point of sweeping robots is the lack of intelligence. Although the intelligence of products at this stage has made great progress, there is still a lot of room for improvement. For sweeping robot companies, continuous product innovation should be carried out through R&D investment and technological innovation, and algorithms are the basis for improving the performance of sweeping robot products. Therefore, Cobos should strengthen technology research and development and improve product navigation by improving the accuracy of algorithms, obstacle avoidance and cleaning functions. To solve the current problems such as difficult to deal with stains or some large-volume garbage, and insufficient mopping cleanliness, breakthroughs have been made in how to intelligently select different modes of sweeping and mopping modes and cleaning cloths according to different site conditions. Different obstacle information realizes strategic obstacle avoidance, strategic cleaning, etc. Let the sweeping robot realize continuous advancement from "visible" to "understandable" and then to "understand execution". In addition, sweeping robot products iterate quickly, so it is very important to have strong R&D capabilities and product follow-up capabilities. The industry must develop new products to keep up with market changes, absorb industry information in a timely manner, adjust production and R&D strategies, and promote the sweeping robot industry to move forward. Intelligent, fully automated, higher quality direction of development.

(2) Focus on feedback and create high-quality full-service

Having consumer thinking is the focus of enterprise product development, and clarifying consumer needs determines the direction of technological innovation. For Cobos, the concept of "customer first" should always be adhered to and implemented.

First of all, the improvement of service quality should be customer-centric, carry out long-term user research, determine the development direction of products around customer needs, meet the individual needs of users, provide different in-depth cleaning experiences for families with different needs, and plan ahead in product design. Use big data to collect information and formulate different solutions.

Secondly, in terms of service content, there should be innovations. Taking after-sales service as an example, enterprises should pay attention to changing the definition of sweeping robot services from traditional after-sales and value-added services to user experience and interaction within the product life cycle. This derives new service content. Under the thinking

of service innovation, create unrepeatable differences in credit services, maintenance services, trade-in services, etc., to make service innovation more valuable.

Finally, enterprises should cooperate deeply with e-commerce platforms and maintenance providers to create a maintenance and spare parts support system that can respond quickly to consumer needs, and build a full-featured, convenient and fast after-sales service model.

(3) Technology empowerment, balancing "high quality and low price" and "value reshaping"

Some products of sweeping robots in the current market have fallen into the dilemma of "high quality but low price". At the same time, the intrinsic value of the product itself has also encountered a bottleneck, which has led to its development stagnation. There is no doubt that technological innovation has become the best way to solve problems.

Enterprises should not only innovate the original functions of sweeping robots, but also add emerging technologies to original products to further enhance their value, thereby enhancing the market competitiveness of products. Enterprises should also clarify the acceptability of the target group for their products to the price increase after "technology empowerment", formulate a phased price corresponding to it, and make corresponding adjustments according to the product life cycle. Finally, by continuously improving key technologies such as artificial intelligence voice, adding humanity to scene linkage, promoting the continuous upgrading of the intelligence of sweeping robots, promoting the continuous emergence of good products in line with the new era, and finally realizing their true value.

(4) Composite function, additional diversified experience

New product technology iterations such as composite functions, all-round base stations, and floor scrubbing robots are on the way. At present, the functional technology change focus of the sweeping robot industry is mainly as follows:

① Micro-innovation of composite functions: Based on the cleaning function of the sweeping robot, the drying function,

Additional functions such as AI intelligence and fragrance function enhance product experience.

② Upgrade of base station technology: The base station of the sweeping robot has gradually superimposed self-dust collection, self-cleaning, automatic,

With multiple functions such as water loading and unloading, automatic cleaning solution addition, automatic drying, and automatic water replenishment, it is moving towards all-round development.

③ The core cleaning function is mature, and the functional innovation of composite products will lead the second round of high-end product growth. When,

After the core technology matures, the brand will increase the added value of the product through composite functions. Functions such as self-cleaning, one-key drying, multiple roller brushes, electrolyzed water/UV/high-temperature sterilization, and additional vacuum cleaners/mite removers have become functions of the floor scrubber. Innovation points, so as to increase the sales premium and users' willingness to buy.

(5) Product derivatives to create multiple growth curves

To develop the high-end smart living appliances sector, the company's floor washing machine products have a solid underlying technical barrier, and will enjoy the second stage of growth in the industry through the innovation of product additional functions, and expand its leading edge in the global floor washing machine market; the company launched the brand of Uni , forming a multi-price segment coverage of the floor washing machine category, increasing the magnitude and penetration rate of the category industry; the company launched a smart cooking machine to create a comprehensive smart cooking software and hardware and food delivery ecosystem; the company launched smart personal care and healthy living Products cover hair dryers, hair combs, eye beautifiers and other product types. Using advanced robot

technology to develop derivative products and create multiple growth curves, it has a positive impact on further improving the company's popularity and increasing corporate profits.

Layout the upstream of the industrial chain, integrate research, production and sales, and reduce production costs. Independent production, on the one hand, can give full play to the company's synergistic advantages in R&D, establishment and marketing, quickly respond to market demand, and accelerate product function update iterations; Reduce production costs and improve product performance. According to the company's announcement, the self-produced price of the company's core components such as injection molded parts is significantly lower than the price of outsourced processing: the unit cost of the company's home service robot is significantly lower than the unit price of outsourced purchases. On the one hand, outsourced materials required for production In addition to labor costs, the period costs, taxes and reasonable profits of the foundry also need to be considered. On the other hand, as the company's production scale gradually expands, the scale effect appears, and the unit cost decreases year by year.

3.2. Enhance Product Marketing and Accelerate Product Promotion

3.2.1. Online and Offline Integrated Marketing

(1) Online marketing promotion

For emerging smart electrical appliances such as sweepers and floor washing machines, intuitive display forms such as live broadcasts and short videos can quickly catch consumers' attention and stimulate their desire to buy. On the one hand, the company attaches great importance to new media marketing methods such as short videos and live broadcasts. It vividly displays the functions of products in the form of short videos on Douyin, Kuaishou, and video accounts. No reason to return and exchange the form to give customers shopping protection: On the other hand, pay attention to content platform planting grass, through the graphic and video recommendations of KOL/bloggers on platforms such as Xiaohongshu, Weibo, Station B, etc., to show the cleaning effect and control of products Ways, usage scenarios, etc., to guide customers to plant grass and buy.

(2) Offline Marketing Promotion

According to the company's official website data, as of August 2022, the company has a total of 88 offline direct experience stores across the country, mainly concentrated in Beijing, Shanghai, Shenzhen, Guangzhou and other cities. As of August 2022, the company has a total of 381 offline stores across the country, with a large proportion in third- and fourth-tier cities.

Therefore, in terms of offline marketing, on the one hand, the company attaches great importance to displaying the functions of products in key national core shopping districts such as first-line, new-line and provincial capital cities through offline direct-operated experience stores, creating a sense of technology, intelligent product image and immersive shopping experience, and give dealers confidence with the demonstration effect of directly-operated stores. On the other hand, the company attaches great importance to the expansion of dealer channels, and expands the coverage of offline retail network through dealers setting up exclusive stores in large supermarkets and department stores.

4. Conclusion

The main research conclusions of this paper are as follows:

(1) The high technology represented by robots must have insight into the market and tap the potential needs of users. Facing the challenges brought by digital transformation, Ecovacs should rely on the digital platform and rely on "Internet + Finance" to lengthen the internal industrial chain and supply chain. Ecovacs should continue to adhere to the confidence of

technological innovation and build a software-hardware integration, The competitive advantage of the integration of production, research and marketing.

(2) Ecovacs will continue to adhere to the mission of "let robots serve everyone", continue to deepen scientific and technological research and development, continue technological innovation and product iteration, realize life scene coverage, and build a smarter and more convenient way of life. The market exports high-quality service robots.

We hope that our analysis report will have a certain reference effect on the development and growth of Ecovacs, and it will also have a certain boosting effect on other high-tech industries represented by similar service robots, and improve the development of my country's robot industry.

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