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Commercial Development Plan of Company S

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MSc in Business Administration

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Iscte – Instituto Universitário de Lisboa

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BUSINESS
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Department of Marketing, Operations and General Management

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Resumo

Atualmente, a indústria da robótica está a crescer e a mudar radicalmente a forma como os seres humanos produzem e vivem, injectando uma forte dinâmica no desenvolvimento económico e social.

A empresa S construiu uma boa marca e reputação ao longo da última década em virtude da sua tecnologia patenteada de base, tornando-a um dos líderes da indústria robótica chinesa. No entanto, à medida que as empresas nacionais e internacionais de alta tecnologia se foram familiarizando com a tecnologia robótica, as capacidades de desenvolvimento e fabrico de produtos foram-se tornando cada vez mais maduras, os produtos foram-se tornando cada vez mais homogéneos e a concorrência na indústria foi-se tornando cada vez mais feroz. As vendas da empresa continuam a aumentar, mas tem vindo a perder dinheiro ano após ano, e a estratégia de marketing da empresa precisa de ser melhorada. Por conseguinte, o objetivo desta tese é conceber um plano de desenvolvimento comercial para a empresa S. É apresentada uma revisão da literatura, bem como a análise do macro-ambiente da indústria robótica e a análise interna da empresa. Em seguida, a análise SWOT é utilizada para resumir os pontos fortes, os pontos fracos, as oportunidades e as ameaças da empresa S. Os questionários, as entrevistas e a análise de dados são utilizados como ferramentas de investigação para descobrir os principais problemas e as suas causas. Finalmente, tendo em consideração toda esta análise e informação, é proposto um conjunto de acções de marketing para resolver estes problemas. Espera-se que o plano de desenvolvimento comercial proposto nesta tese ajude a Empresa S a atrair novos clientes, a aumentar a quota de mercado dos robôs de serviço, a diversificar as receitas, e a fidelizar os clientes.

Palavras-Chave: Plano comercial, Robot, vendas

JEL Classification: M31

Abstract

At present, the robotics industry is booming and is dramatically changing the way humans produce and live, injecting strong momentum into economic and social development. Company S has built up a good brand and reputation over the past decade by virtue of its core patented technology, making it one of the leaders in China's robotics industry. However, as domestic and international high-tech companies have become familiar with robotics technology, product development and manufacturing capabilities have become increasingly mature, products have become increasingly homogeneous and competition in the industry has become increasingly fierce. The company's sales continue to rise, but it has been losing money year after year, and the company's marketing strategy needs to be improved. Therefore, the objective of this thesis is to design a commercial development plan for S-Company. A literature review is presented, as well as the analysis of the macro-environmental of the robotics industry and the internal analysis of the company. Then, the SWOT analysis is used to summarize the strengths, weaknesses, opportunities and threats of Company S. Questionnaires, interviews and data analysis are used as research tools to find out the main problems and their causes. Finally, taking all this analysis and information into consideration, a set of marketing actions are proposed to solve these problems. It is expected that the commercial development plan proposed in this thesis will help Company S to attract new customers, increase market share of service robots, diversify revenues, and increase customer loyalty.

Keywords: Commercial plan, Robot, sales

JEL Classification: M31

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Glossary

CAGR- Compound Annual Growth Rate

CBIRI - China Business Industry Research Institute

CLV- Customer Lifetime Value

EDB- education bureau

GDP – Gross Domestic Product

HRI - Human Robot Interaction

IFR-International Federation of Robotics

K12-Kindergarten through 12th grade education

KOL - Key Opinion Leader

NBS-National Bureau of Statistics

PESTE – Political and Legal, Economic, Socio-cultural, Technological, Environmental

RMB – Renminbi （Chinese currency）

R&D – Research and Development

SWOT – Strengths, Weaknesses, Opportunities, Threats

STEAM – Science, Technology, Engineering, Art and Mathematics

STP - Segmentation, Targeting, and Positioning

UGOT- Universal GO Terminal

1. Introduction

Nowadays, the robotics industry is not only the focus of attention of the world's technological powers, but also the benchmark for the future international competitiveness of developed economies. With an aging population, shortage of human resources and rising labour costs, the robotics market has a very bright future. Of course, Chinese robotics companies will also see huge development opportunities and unprecedented challenges in this market. Robots are divided into industrial robots and service robots. Based on published data on the robotics industry, projections for the future indicate that industrial robots market is growing much slower than service robots market. As human demand for service robotics products grows, many companies are beginning to turn their attention to the field of intelligent services. How to quickly integrate robots into the service industry will be the next goal for robotics companies and an important guarantee of long-term success for every robotics company.

Company S is mainly engaged in the business of educational robots. The company has a series of marketing problems that need to be overcome, such as slow product iteration, high prices, imperfect online sales channels, few promotions and promotional activities that are not as effective as expected. Therefore, this project will deeply analyse the marketing problems of Company S, find out the methods and countermeasures to solve these problems, and formulate a commercial development plan for Company S.

This thesis uses a variety of research methods, such as literature review, data analysis and questionnaire and interviews. Firstly, by consulting the literature on marketing plan, segmentation, target and positioning, marketing mix and the status quo of service robots, summarize the theoretical support and writing direction; then formulate reasonable goals through interviewing experts; finally, conduct customer surveys and analysis, in order to directly understand the real needs of customers. This thesis is divided into five chapters. The first chapter is the introduction, which describes the background of this thesis, its the purpose of this thesis and the used methodology. The second chapter is the literature review and the chapter 3 is the methodology. Chapter 4 presents the commercial development plan, which is composed by the executive summary, an analysis of the external environment of Company S, analysis of the internal operating environment of the enterprise, the SWOT analysis, the marketing plan objectives, the segmentation, targeting and positioning, the marketing-mix, the implementation schedule and the budget. Finally, chapter 5 presents the Conclusion.

2. Literature Review

2.1. Marketing

Marketing is the strategic process and set of activities that businesses and organizations undertake to create, communicate, deliver, and exchange value with customers. It involves understanding customer needs and preferences, developing products or services that fulfill those needs, and effectively promoting and distributing them to the target audience. Marketing encompasses a range of activities aimed at building strong customer relationships, driving sales, and achieving business goals. Marketing can be defined as the systematic process of identifying, anticipating, and satisfying customer needs and desires through thoughtful product design, effective communication, and efficient distribution. It involves the creation of value for both customers and the business, leading to mutual benefits and sustainable growth (Armstrong and Kotler, 2019).

Feng and Zhixian (2021) argued that with the rapid popularization of the Internet, people's consumption concept and consumption habits have changed greatly. As such, the authors argue that enterprises should change their marketing concept in time, pay attention to online marketing activities, and strive to realize online and offline linkage, so as to further improve their market competitiveness.

Qian (2022) argues that enterprises should pay attention to marketing management and take practical and effective measures to continuously improve it, thus promoting the development of marketing in multiple dimensions and creating more economic and social benefits for enterprises. According to Bei (2022), companies need to pay attention to marketing management in the process of enterprise development, and formulate marketing strategies in line with the development goals of the enterprise. Shengde (2022) points out that in marketing management, consumer psychology becomes an important research content. The psychological changes of consumers have a great impact on the marketing situation of goods, so the current situation of marketing needs to be analyzed and specific measures of marketing management under consumer psychology are proposed from several aspects. Wen (2023) believes that with the development of new retail technology and artificial intelligence technology, companies should follow the trend of the times, make appropriate changes and adjustments, and actively respond to the challenges brought by the Internet. Facing the new trend of the Internet economy, companies have to establish new mechanisms, new goals and

new systems, and change their traditional marketing concepts, in a sense to guide market consumption and improve economic efficiency to match the development of society.

2.2. Marketing Plan

According to Shilin (2005), the lack of a plan for marketing will lead to confusion in actions and financial expenditures and may put the company in a disadvantageous position in the market competition, so every company must use a plan. So, the formulatation of the marketing plan is one of the most important tasks in the marketing process. Feng (2007) also believes that the marketing plan is an essential part of the marketing process.

2.3. Segmentation, Targeting, and Positioning

According to the Segmentation, Targeting and Positioning (STP) marketing model, companies should first segment the market and then decide on the final choice of target segments based on the segmentation and find their positioning (Kotler, 2014).

The concept of market segmentation was introduced by Smith (1956). Customers can be distinguished according to different characteristics and they also have different needs, which can be studied to help the product to find the target customers and also to adjust the marketing plan (Tarver, 2023). Market positioning is the process of creating a unique impression in the minds of customers, standing out from the crowd and effectively enhancing brand impact (Kompella, 2014).

2.4. Marketing Mix

McCathrthy (1960) proposed the famous 4Ps theory of product, price, place, and promotion. Each 'P' represents a different aspect of the marketing mix:

- Product: This refers to the physical product or service offered to customers. Companies need to consider factors such as product features, design, quality, branding, packaging and any unique selling points that differentiate it from competitors.
- Price: Pricing involves determining the monetary value of the product or service. Factors that influence pricing include production costs, competition, customer perceived value, and the firm's overall pricing strategy (e.g., premium pricing, penetration pricing).

- Place (distribution): Place refers to how the product reaches the customer. It includes decisions about distribution channels (e.g., direct sales, retailers, online platforms), geographic distribution locations, inventory management, and ensuring that the product is available when and where customers want it.
- Promotion: Promotion encompasses all activities designed to create awareness and demand for the product. It includes advertising, public relations, sales promotions, social media marketing, influencer collaborations and any other communication effort that communicates the benefits of the product to the target audience.

Lauterborn (1990) proposed a new customer-centric marketing theory, which became famous as the 4C theory, which is about Customer, Cost, Convenience, and Communication. Each "C" represents a different aspect of this customer-focused approach:

- Customer Value: The focus shifts from the product itself to the value it provides to customers. This includes understanding how the product or service solves a customer's problem or fulfills their needs, as well as the overall benefits it offers.
- Customer Cost: This considers the total cost to the customer beyond just the monetary price. It encompasses factors such as time, effort, and emotional investment required to research, purchase, and use the product or service.
- Convenience: Convenience relates to how easily customers can access and acquire the product. This considers factors like distribution channels, online platforms, delivery options, and the overall shopping experience.
- Communication (instead of Promotion): Communication in the 4Cs framework focuses on engaging customers in meaningful interactions. It's about two-way dialogue, active listening, and providing valuable information and solutions through various communication channels.

Schultz (2001) developed the 4R theory, which is based on the elements of Relevancy, Reaction, Relationships and Reward. According to the author, the 4Rs give equal attention to the interests of the company and the needs of the consumer.

- Relevancy: This element highlights the importance of offering products, services, and communications that are relevant to the needs and preferences of the target audience. In a rapidly changing market, staying relevant helps capture the attention of consumers and keeps them engaged.

- Reaction: The "Reaction" component focuses on eliciting a response or action from consumers. This involves creating marketing strategies that prompt consumers to take specific actions, such as making a purchase, sharing content, or engaging with the brand.
- Relationships: Building strong and meaningful relationships with customers is a core aspect of the "4R theory." This involves fostering connections that go beyond one-time transactions, leading to customer loyalty, advocacy, and repeat business.
- Reward: The "Reward" element acknowledges the importance of providing value and benefits to consumers. Rewards can take various forms, such as discounts, exclusive offers, personalized experiences, or any other incentives that enhance the consumer's experience.

To conclude, different marketing mixes can help companies to solve different problems encountered in companies.

Figure 2.1 - Marketing Mix Comparison Chart

Source: Author (2025)

2.5. Service Robots

According to Wenbao (2020), the era of intelligent service robots has come and gone, and as the market for intelligent robotic products expands, the way of life for humans is changing dramatically. In order to achieve breakthroughs in various fields of service robot products, most countries around the world have formulated corresponding policies to pave the way for their advancement.

Yanwen (2021) used the 4P theory to develop a marketing mix strategy for the New Coordinate company. This study is a great contribution to further increase the market share of New Coordinate in Changchun robotics education market.

According to Chen et al. (2021), the academic literature on service robots has grown substantially over the last decade. The analysis of emergent keywords and literature co-citation shows that the research on service robots relies more on the combination of new theories and technologies, and the sociological theory reflecting human-machine integration is the current research hotspot. Furthermore, the scale, intelligence, human-like and interaction form diversification are important for the future development of service robots.

Liu et al. (2021) concluded that the level of robot anthropomorphism can influence customers' willingness to co-create value in the service interaction process.

According to Shiqi and Wei (2022), using AI-self-connection as a mediating variable, the influence of the interaction mode of service robots on willingness to use was studied, and the moderating role of usage scenarios and perceived intelligence in this process was also analyzed. Yuan et al. (2022) found that in the context of the trend of new role attributes and deep interaction needs, compared with HRI research and applications at the level of "computational intelligence" such as localization, planning and recognition, the current HRI research in China lacks a focus on user experience, multimodal natural interaction and social interaction. This has become a problematic point for service robot application innovation and industrial development. It can be said that it is crucial to consider Human-Centered Design (HCD) and how HRI should be shaped.

China's service robot market is expanding and gradually gaining a firm foothold in the robotics market applications, and the service robot industry still has a long way to go in the future. To promote the service robotics industry to continue to develop for the better, it is urgent to explore a good development strategy (Jia, 2023).

2.6 Customer acquisition and retention

In today’s highly competitive marketplace, building long-term customer loyalty is essential for sustainable growth. One foundational model is Kotler ’ s Loyalty Ladder, which conceptualizes the customer journey as a progression from initial awareness to brand advocacy. According to Kotler (1997), customers evolve through several stages — from prospects and first-time buyers to repeat customers and, ultimately, loyal advocates. This

framework underscores that loyalty is not instantaneous; rather, it results from sustained, strategic engagement over time.

Closely related to this is the concept of Customer Lifetime Value (CLV), which refers to the total value generated by a customer over the period of time that the customer remains in a relationship with the firm. Customer lifetime value is important because it allows firms to focus on retaining high-value customers rather than relying solely on high-cost acquisition efforts (Reichheld & Sasser, 1990). By increasing customer value, firms can increase profitability through repeat purchases and reduce overall marketing expenses.

Relationship Marketing further builds on these ideas by shifting the focus from short-term transactions to nurturing enduring, mutually beneficial relationships. Kotler and Keller (2013) emphasize that effective relationship marketing is built on trust, commitment, and continuous value creation. When companies deliver personalized experiences and consistently exceed customer expectations, satisfied customers naturally transition into brand advocates who support the brand through positive word-of-mouth.

Modern advancements in data analytics and Customer Relationship Management (CRM) systems have further enhanced these strategies. Research by Lemon and Verhoef (2016) shows that understanding the customer experience throughout the journey is crucial for building loyalty. Digital transformation—discussed by Verhoef et al. (2021)—has enabled firms to collect and analyze vast amounts of customer data, allowing for precise segmentation and personalized interactions. As described by Chaffey and Ellis-Chadwick (2019), integrated CRM systems consolidate customer touchpoints across multiple channels, ensuring that each interaction is consistent and tailored to individual needs.

Moreover, Kumar and Reinartz (2016) argue that leveraging data-driven insights not only improves customer retention but also helps in creating enduring customer value. By harnessing real-time data and advanced analytics, companies can continuously refine their marketing strategies and enhance the overall customer experience—ultimately converting occasional buyers into lifelong advocates.

In summary, integrating classic frameworks like Kotler ' s Loyalty Ladder with contemporary measures such as CLV, and leveraging relationship marketing alongside advanced data analytics and CRM technologies, provides a robust roadmap for fostering and sustaining customer acquisition and loyalty. This integrated approach not only enhances short -term customer satisfaction but also builds the long-term profitability and competitive advantage essential for success in today's dynamic business environment.

3. Methodology

The objective of this thesis is to develop the commercial development plan of Company S for 2025. By doing a literature review and analysing the external and internal environment of the Company S, a commercial development plan is designed for the transformation of the company's customer marketing service system to adapt to the new market environment and meet the trend of consumer demand.

The objectives of this commercial development plan are: increase sales and profits, Company S's visibility in the industry attracts new customers while increasing the loyalty of existing customers to Company S, leading to sustainable business expansion and growth.

The Questionstar Questionnaire applet on WeChat was used to conduct a survey to the target customer base. The purpose of the survey was to understand customers' real needs, motivations, preferences such as acceptable prices, advertising channels, promotional activities, etc., as well as areas where the product still needs to be improved. The data was collected between 1 March and 20 March 2025. There are 135 valid answers. A convenience sample was used.

I conducted interviews with some of the company's product department, and sales department managers to get information for internal analyses.

4. Commercial Development Plan

4.1. Executive Summary

Currently, service robots have entered a stage of rapid development, and the competition in the industry is extremely fierce. The goal of Company S's 2025 commercial development plan for educational robots is to achieve the long-term goal of sustained growth in profits and operating income by increasing brand awareness, attracting new customers, and improving the loyalty of existing customers.

Based on the above objective considerations, a comprehensive analysis of Company S was conducted in three aspects: external environment, internal environment and SWOT.

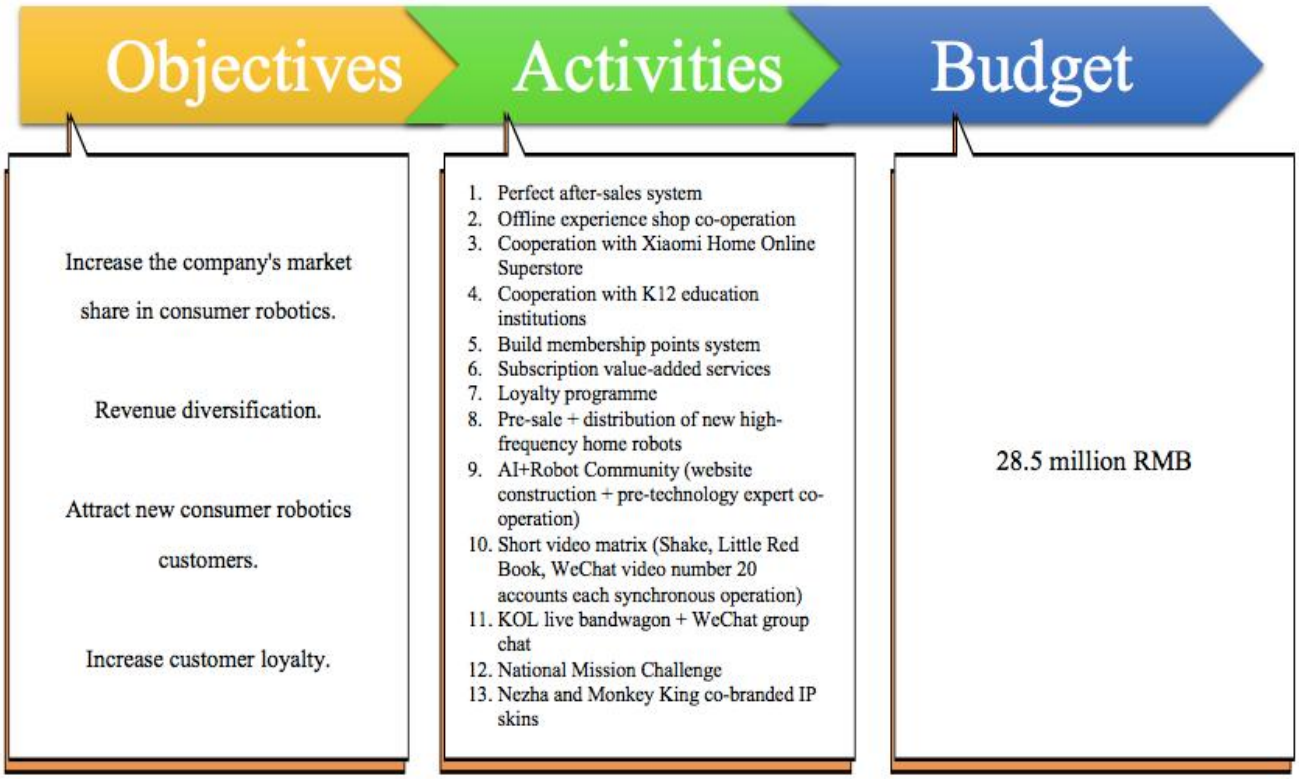
Firstly, I used the PEST method to analyse the impact of changes in China's macro-factors in recent years on Company S, such as political, economic, social, cultural, technological and environmental factors. Then, I analysed the industry, competitors, Porter's Five Forces, and consumer preferences to further understand the changes and trends occurring in the external environment.

Secondly, I analyse the problems in marketing of Company S based on its characteristics, business strategy and positioning, i.e. mission, vision, values, investment analysis and customer analysis.

Thirdly, SWOT analysis is used to find out the strengths, weaknesses, opportunities and challenges of Company S. Based on this, the STP method is used to research the market segments and determine the market segment objectives and positioning of S Company.

Finally, based on the data analysis, Company S's commercial development plan mix for 2025 is proposed and the budget and control to achieve these goals.

Figure 4. 1-Promotion objectives, proposal and budget of Company S's toner for 2025



Source: Author（2025）

4.2. External Situational Analysis

4.2.1. PESTEL Analysis

4.2.1.1. Political and Legal Context

Government policies and initiatives

The Chinese government has been actively promoting the development and adoption of robotics through various policies and initiatives. For example, on 2022-07-06, the Ministry of Industry and Information Technology, the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Public Security, the Ministry of Civil Affairs, the Ministry of Housing and Urban-Rural Development, the Ministry of Agriculture and Rural Development, the National Health Care Commission, the Ministry of Emergency Management, the People's Bank of China, the State Administration of Market Supervision and Administration, the China Banking and Insurance Regulatory Commission, the China Securities Regulatory Commission, the National Defense Science and Technology Industry

Bureau, and the National Mine Safety Supervision Bureau, approved the " 14th Five-Year Plan" for the development of the robotics industry.

Made in China 2025 is a strategic document issued by the State Council in May 2015 to comprehensively promote the implementation of a strong manufacturing country, and is the action programme for the first decade of China's implementation of the strong manufacturing country strategy. The manufacturing industry is the mainstay of the national economy and is the foundation of the country, the instrument for the prosperity of the country and the basis for the strength of the country. Made in China 2025 is a top-level plan and roadmap for China's manufacturing industry in the next 10 years, which intends to promote China's basic industrialisation by 2025 and move into the ranks of a manufacturing power by striving to achieve three major transformations: Made in China to Create in China, Speed of China to Quality of China, and Products of China to Brand of China. Subsequently, regulatory documents have been issued to guide the coordinated and healthy development of China's robotics industry, such as the Notice on Promoting the Healthy Development of the Robotics Industry and the Guidelines for the Declaration of Special Projects for 2017 for the "Intelligent Robotics" Key Project. At the national level, actions have been deployed in the field of intelligent service robots such as medical rehabilitation, elderly care services, courier services and multifunctional industrial services.

In the field of intelligent robot technology development, the 14th Five-Year Plan outlines the need to break through advanced controllers, high-precision servo drive systems, high-performance reducers and other key technologies for intelligent robots. Key core technologies should be strengthened, and the promotion and application of intelligent manufacturing equipment and systems should be accelerated. The 5G Application "Sailing" Action Plan (2021-2023) states that the integration of 5G technology with robotics should be promoted and 5G applications should be enriched. Intelligent service robots will continue to make new breakthroughs in key technologies such as environmental perception, natural interaction, independent learning and human-robot collaboration, and the continuous progress of science and technology will bring a broader development blueprint for the industrial robot industry.

Intellectual property protection

Intellectual property protection is an important issue for the service robotics industry in China. Companies operating in China need to address intellectual property protection and take steps to protect their innovations, patents, copyrights and trade secrets.

Data privacy and cyber security

China has implemented data protection and cyber security laws and regulations to protect user data and privacy. Service robotics providers must comply with these regulations to ensure secure operations and prevent data breaches and security breaches.

Trade and investment regulations

China's trade and investment regulations can impact the import and export of service robots. The government's policies and trade relationships with other countries, such as tariffs, quotas, and market access restrictions, can affect the competitive landscape and market opportunities for service robot manufacturers.

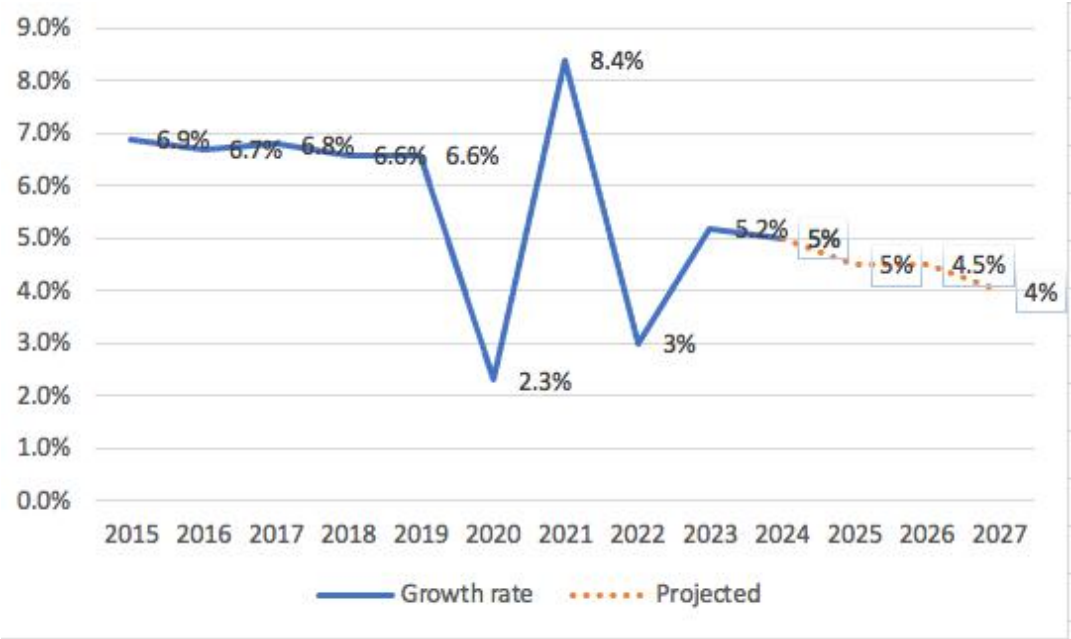
Policy Environment and Technological Trends

The Chinese government has implemented a series of strategic policies—including the "14th Five-Year" Robot Industry Development Plan, the "Robot+" Action Plan, and directives under the national health and elderly care initiatives—to bolster the development and innovation within the service robotics industry. These policies provide substantial support in terms of funding, tax incentives, and research and development subsidies, thereby accelerating both technology localization and market adoption.

4.2.1.2. Economic Context

China is the world's second-largest economy and its GDP continues to grow steadily. The size of the Chinese market offers tremendous opportunities for the service robotics industry. Breakthroughs and developments in artificial intelligence, rising disposable incomes, and a growing middle class have fuelled demand for service robots across a wide range of industries. According to the National Bureau of Statistics of China, China's GDP will be approximately RMB 126 trillion in 2023, RMB 135 trillion in 2024, and is expected to exceed RMB 150 trillion in 2027. It can be seen that China's economy has recovered faster than expected after the measures taken to prevent and control the epidemic. The figure below reflects the trend of China's GDP.

Figure 4.2 - China's annual GDP growth rate



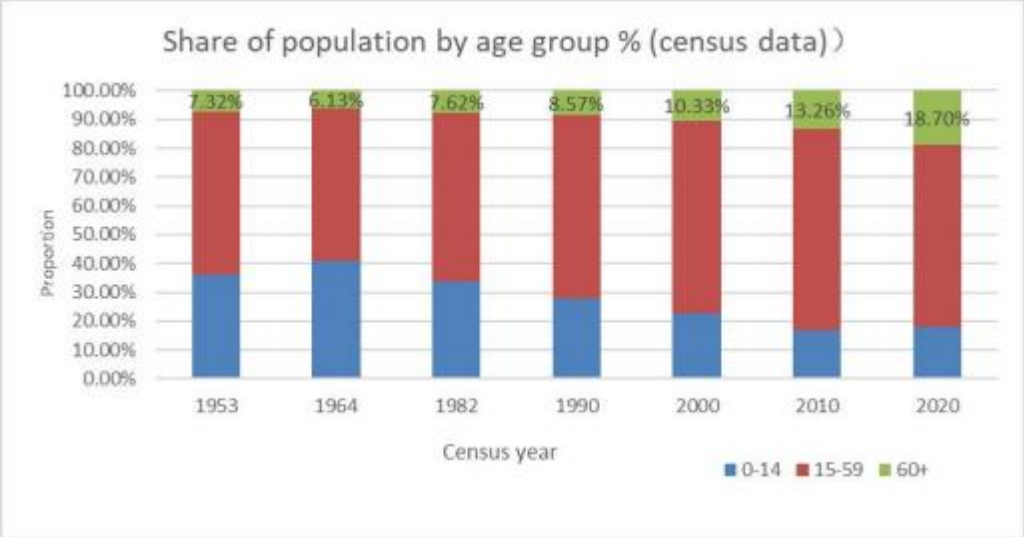
Source: National Bureau of Statistics of China

As regards to the consumer purchasing power, China's rising disposable incomes and expanding middle class contribute to increase the consumer purchasing power. This enables greater affordability and adoption of service robots for personal use, such as household cleaning robots, entertainment robots, and personal assistance robots.

4.2.1.3. Socio-cultural Context

China is experiencing an aging population, with a large number of elderly citizens requiring care and support. According to the National Bureau of Statistics of China, the number of people aged 65 and over is increasing every year.Service robots may play a vital role in addressing the challenges associated with elderly care, healthcare services, and support for an aging workforce. Thus, this demographic factor drives the demand for service robots in sectors like healthcare, eldercare, and rehabilitation.

Figure 4.3-Share of population by age group

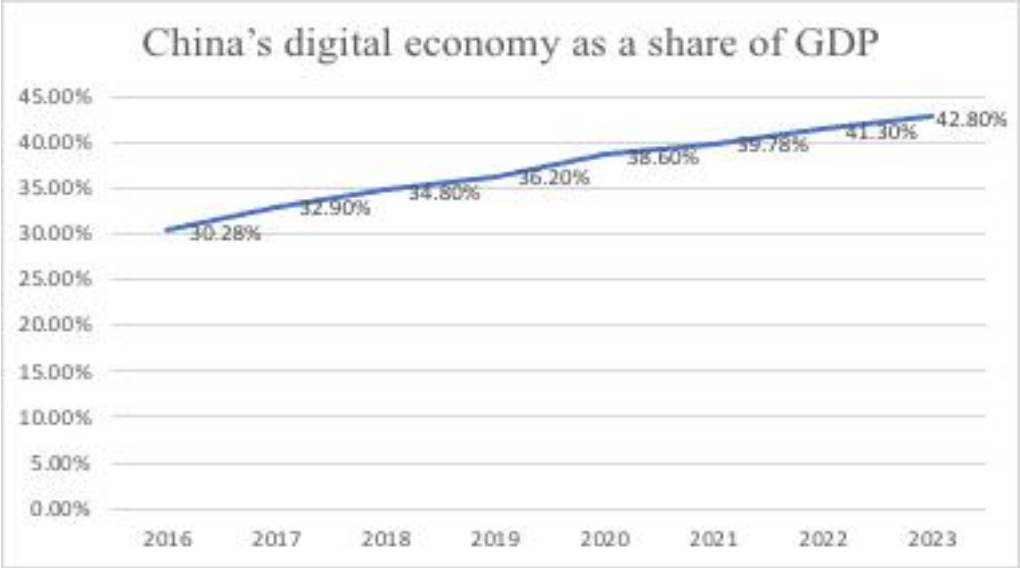


Source: National Bureau of Statistics of China

Since the reform and opening up, and due to rapid economic growth, data from previous Chinese censuses shows that the average education level of Chinese people has increased rapidly. Chinese society has shown increasing acceptance and openness towards new technologies, including service robots. Consumer attitudes are generally positive, as seen in the popularity of service robots in sectors like hospitality, entertainment, and education. Chinese consumers are often early adopters of new technologies, which creates a favorable market environment for the service robotics industry.

According to data from the China Academy of Communications, China's digital economy has been increasing year by year as a proportion of GDP, and the digital upgrade of the industry has brought about a broad application space for service robots.

Figure 4.4 - China’s digital economy as a share of GDP



Source: National Bureau of Statistics of China

4.2.1.4. Technological Context

The current new round of technological revolution and industrial change is accelerating, and the new generation of information technology, biotechnology, new energy, new materials and robotics are deeply integrated, and the robotics industry is ushering in a window of upgrading and leapfrogging. The world's major industrialized countries have made robotics the frontier and focus of competition in the science and technology industry, and have stepped up their planning and layout. The media's publicity and the vigorous layout of head companies have caused a boom in robotics research.

As regards to the technological advances, China has made significant progress in the fields of robotics and artificial intelligence. China has a strong R&D ecosystem with world-class universities, research institutes and technology companies. Breakthroughs have been made in areas such as artificial intelligence algorithms, computer vision, natural language processing and human-robot interaction. These technological advances are driving the development of intelligent, versatile and efficient service robots. In terms of manufacturing capabilities, China has a strong manufacturing infrastructure and manufacturing capabilities. China's efficient and cost-effective manufacturing capabilities support the production and expansion of service robots. China's manufacturing strength provides a competitive advantage for Chinese service robotics companies and supports the growth of the industry.

4.2.1.5. Environmental Context

As regards to environmental regulations and sustainability, China has always had a focus on environmental sustainability. The government has implemented a number of environmental regulations and initiatives to promote energy efficiency and reduce carbon emissions. In the service robotics industry, there is an increasing focus on developing energy-efficient robots to reduce energy consumption and environmental impact.

At the same time, proper waste management and recycling are important issues for the service robotics industry. Companies are encouraged to adopt recycling schemes and environmentally friendly disposal methods to reduce the generation of e-waste and promote a circular economy.

4.2.2. Sector Analysis

According to the International Federation of Robotics (IFR) classification criteria, robots can be divided into industrial and service robots. Industrial robots are those used in production processes and environments whereas service robots are those used in non-manufacturing industries

.

Industry Definition and Classification

Service robots, defined as automated machines that perform useful tasks for humans or devices outside the realm of industrial automation, are broadly.

- Home/Personal Service Robots: These include household cleaning robots, companion and educational robots.
- Public Service Robots: These robots are mainly used in the following areas: firefighting, emergency response, government consultation, etc..
- Medical Service Robots: These encompass devices used in surgic.

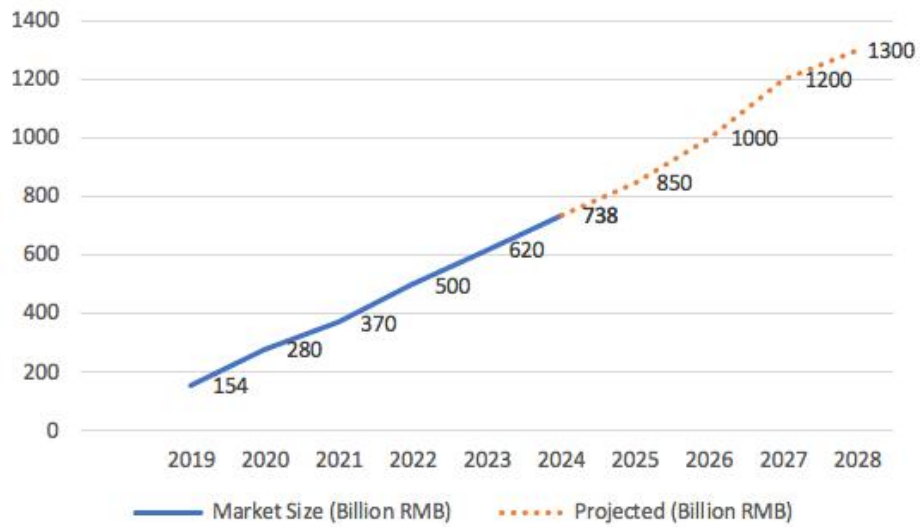
Each category demonstrates different technical capabilities and user experience requirements, and addressing these needs is what we at Robotics strive for and work towards.

Market Size and Production Volume

The latest data from the National Bureau of Statistics (NBS) and industry reports show that China's service robot market has grown significantly. The household service robot market, for example, will expand from approximately RMB 5.57 billion in 2017 to RMB 73.8 billion in 2024, representing a year-on-year growth of 18.7%, and has maintained a 2-digit growth rate for five consecutive years. In addition, the overall market size of service robots will exceed RMB 60 billion in 2023, with a year-on-year growth rate of about 27.7%. Production data shows that China's total output of service robots will be approximately 10,519,000 units in 2024, which together indicate that the industry is experiencing explosive growth driven by technological advances and lower production costs.

According to the 'China Service Robot Industry In-depth Research and Investment Strategy Analysis', the industry is likely to grow at a compound annual growth rate (CAGR) of 12%-18% during the period from 2025 to 2030, and the market size is likely to be more than RMB 141.38 billion by 2030. The overall market potential is expected to expand further as the application areas of service robots expand into smart home, public safety, healthcare and education. In addition, leading companies are actively implementing global expansion strategies through international collaborations and mergers and acquisitions, which is likely to enhance China's position in the global service robotics market.

Figure 4.5 - China's Service Robot Market Size



Source: China Business Industry Research Institute (CBIRI)

Competitive Landscape and Regional Distribution

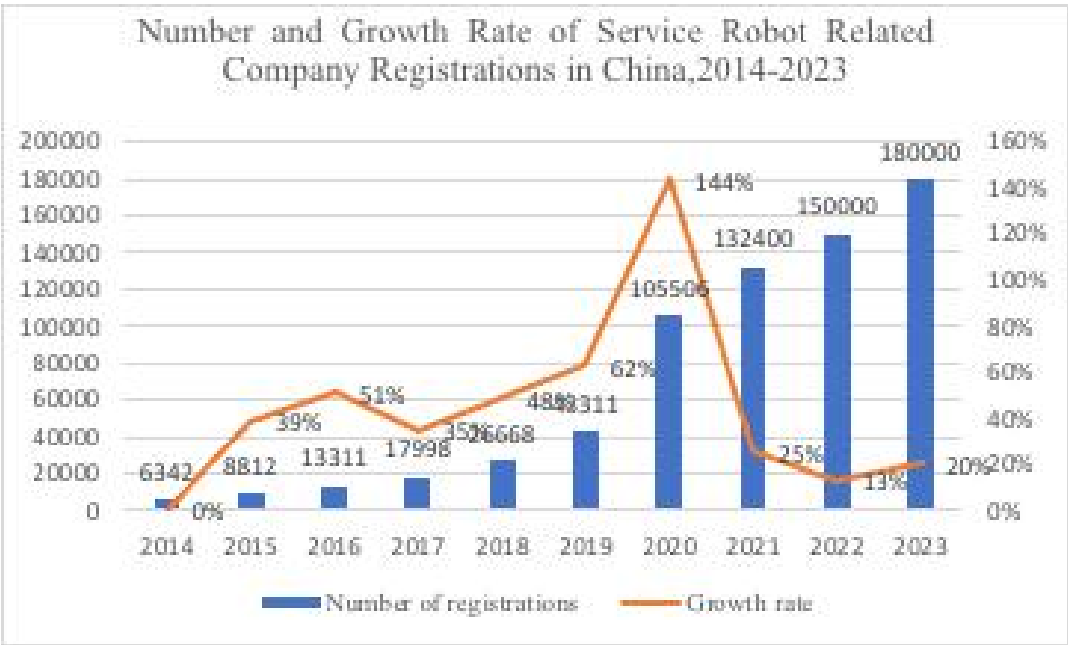
The geographic distribution of service robotics companies is predominantly concentrated in economically advanced coastal regions (e.g., Guangdong, Jiangsu, Zhejiang, and Shandong), where well-established manufacturing supply chains and concentrations of technical expertise confer significant advantages in research and development as well as market penetration. Within the competitive landscape, home service robot manufacturers (such as Ecovacs and Roborock) command considerable market share, while in the public service domain — especially for dining and hospitality applications—firms such as Pudu Technology and Orien Technology are emerging as key players. Although the medical service robot segment currently represents a smaller proportion of the market, its high technological barriers and strong policy support indicate significant future potential.

Technologically, the industry is witnessing rapid advancements in several key areas:

- Artificial Intelligence and Big Data: Continuous improvements in AI and deep learning algorithms enhance the autonomous decision-making and environmental adaptability of robots.
- Internet of Things and Cloud Computing: Integration with IoT systems enables data sharing and real-time monitoring, improving localization and operational efficiency.
- Intelligent Human–Machine Interaction: Advances in voice recognition, natural language processing, and user interface design contribute to more seamless and effective interactions between humans and robots.

Safety and Reliability: Future developments will increasingly prioritize data privacy, algorithmic fairness, and robust safety features, in order to meet the stringent requirements of high-standard application environments.

Figure 4.6 - Number and Growth Rate of Service Robot Related Company Registrations in China,2014-2023



Source: National Bureau of Statistics of China

According to China's National Bureau of Statistics, the number of service robotics-related companies registered in China in 2020 has seen an explosive growth of 143% due to the impact of the New Crown epidemic, and the number of service robotics-related companies registered in China in each of the last three years has exceeded 100,000+. Therefore, robotics companies with a full set of core technologies, represented by Company S, will have more opportunities to participate in the future competition in the intelligent service robot solutions industry.

China's service robot industry is in a phase of rapid expansion, fueled by policy support, technological innovation, and diversified demand. Future success hinges on breakthroughs in core technologies, scenario-specific applications, and global market penetration. Enterprises must adopt differentiated strategies to address homogenization risks and leverage China ' s industrial chain advantages for sustained growth.

4.2.3. Competitor Analysis

The Chinese intelligent service robotics solutions industry is highly competitive. However, most are SMEs, there are no overwhelmingly dominant brand players and only a few players

in the industry are able to offer a full stack of core technologies (including computer vision, voice interaction, servo drives, motion planning and control, and positioning and navigation). Company S is one of the top five suppliers of intelligent service robot solutions in China (based on revenue in 2024). The following table provides information on the top five players in the Chinese market.

Table 4.1 - Major Competitors

No.	1	2	3	4	5
Company	Company A	Company B	Company C	Company S	Company D
Profile	Founded in 2015 and headquartered in Beijing,China.The company specialises n cloud-based robotics and operating platforms	Founded in 2014 and headquartered in Hangzhou,China. The company provides customers with leading machine vision products and mobile robots	Founded in 1999 and headquartered in Nanjing,China The company specialises in nspection robots for the power, energy and municipal sectors	Founded in 2012 and headquartered in Shenzhen, China.The company is the pioneer and eader of AI-cnabled robots in China.	Founded in 2000 and headquartered n Jinan,China. The company specialises in nspection robots for the power industry
Category	Intelligent Administrative Robot	Intelligent Logistics Robot	Intelligent nspection Robot	Intelligent Education Robot	Intelligent Inspection Robot
Full Stack Technolog	√	X	X	√	X
Revenue by 2024 (RMB/billions)	23	17	19	13	9
Market share in 2024	5.00%	3.60%	4.10%	2.80%	2.00%

Source: Author(2025)

4.2.4. Porter's Five Forces

Porter's Five Forces is a framework developed by Michael Porter, a renowned strategy expert, to analyze the competitive dynamics and the attractiveness of an industry. It provides a structured approach for assessing the attractiveness and profitability of an industry by considering five key forces that shape its competitive landscape. This model is used below for the analysis of the robotics industry where Company S operates.

Threat of new entrants

Cross-border technology companies (such as Huawei, ByteDance): Relying on AI algorithms and computing power advantages may be cut in; Threat assessment: The threat is medium in the short term, but it is necessary to be alert to the resource integration capabilities of existing industrial chain giants such as Tesla and Xiaomi.

Bargaining power of suppliers

Key components for intelligent service robots include processors, sensors, chips, batteries and cameras, all of which are subject to price fluctuations or shortages. Chips, for example, are a key component of a robot because they determine the efficiency of the device. Semiconductors are also a key component of many intelligent service robot products. Any shortage of chips or semiconductors throughout the robotics industry and other industries could result in higher chip purchase prices and disruptions in the supply of key components required for the production process. In addition, any export restrictions on chips or semiconductors imposed by the U.S. government could further impact the supply of chips to the Chinese robotics industry and other industries. As such, producers of robots may not be able to obtain sufficient replacement parts for existing production processes or obtain other chips in a timely manner or at all. Chips could only be purchased at high prices.

Consequently, it can be concluded that the power of suppliers is high.

Buyer bargaining power

Buyers of service robots, such as companies or consumers, have varying degrees of bargaining power.

Enterprise Customers: Businesses in education, government, and commercial sectors have strong purchasing power but demand cost-effective solutions.

Individual Consumers: The consumer market for humanoid robots is still developing, and high prices make buyers sensitive to cost, giving them stronger bargaining power.

Corporate customers have bargaining power due to their purchasing scale and technical requirements, while individual consumers show greater price sensitivity due to high prices and technical bottlenecks. In the future, as humanoid robots are mass-produced and their functions are improved, the bargaining power of the C-end may gradually weaken, but in the short term, it is still necessary to activate the market through price wars.

Threat of substitute products

Other Automation Devices: Smart speakers, smart home devices, drones, and industrial automation robots may serve as substitutes in some applications.

Software-Based Alternatives: Certain AI functions (e.g., voice assistants, facial recognition) can be performed via software and cloud computing, reducing reliance on physical robots.

Impact Level: Substitutes may reduce demand for robots in specific applications, but in areas requiring interactive humanoid experiences, substitution threats remain limited.

Rivalry among existing competitors

International giants: Boston Power (four-legged robot technology is leading), Tesla Optimus (mass production capacity and cost advantages), Japan Softbank Pepper (high penetration rate of service robot scenarios). Ubisop has formed a differentiated barrier in the number of humanoid robot patents (the world's first) and industrial scenario customization capabilities, but it needs to deal with the large-scale mass production impact of Tesla Optimus. Domestic emerging enterprises: Yushu Technology (low-cost strategy of quadruped robots), Zhiyuan robots (relying on the rapid expansion of Xiaomi ecological chain), Fuliye Intelligent (deep cultivation of medical rehabilitation scenarios). Ubisoft relies on the full-stack technology layout (servo joint + AI algorithm + operating system) to consolidate the advantages of the industrial market, but the consumer-level field is facing the traffic competition of Xiaomi Cyberone and other products. Competition focus: technical route differentiation (humanoid VS four-legged), commercialization speed (mass production capacity VS scenario innovation), ecological construction ability (hardware + software + service integration).

4.2.5. Consumer preferences

The authors designed and released a WeChat questionnaire using Questionstar survey software, and received valid questionnaires from 135 customers, and analysed the survey data to produce the following consumer preference results.

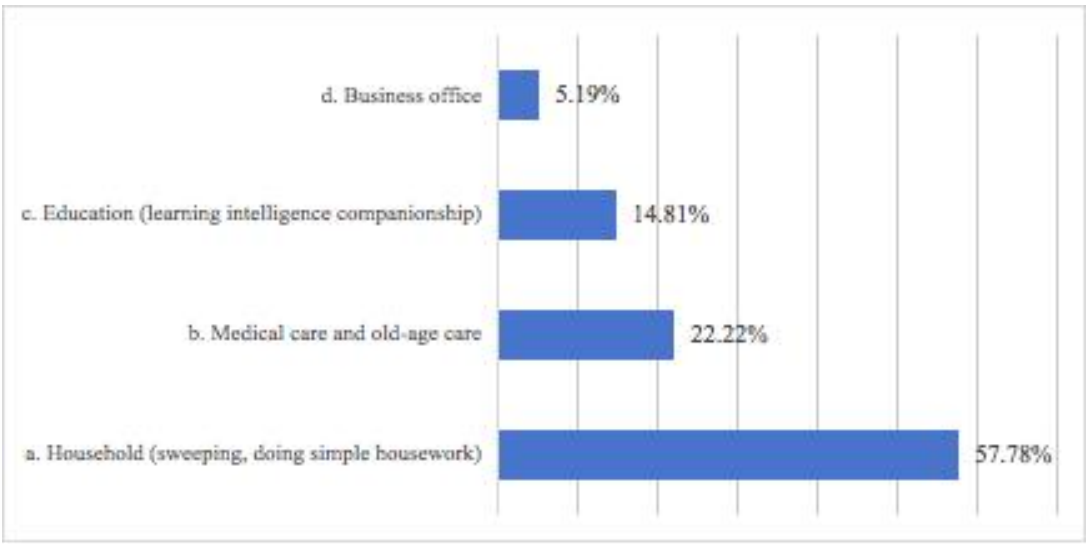
Regarding the factors that influence the purchase decision of consumer-grade service robots, 44% of respondents believe that reliability and performance are the most important, while 30% of respondents prioritise price and affordability (Figure 4.7).

Figure 4.7 - Factors influencing consumer service robot decisions

Source: Author（2025）

Respondents were more likely to want to buy domestic robots in the future (58 %), and 22 % said they wanted to buy robots to assist the elderly (Figure 4.8).

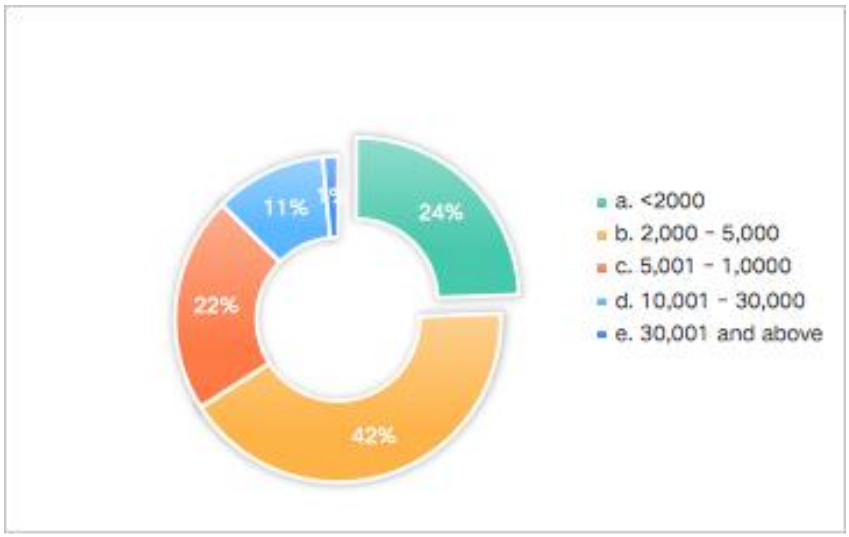
Figure 4.8 - Types of Robots Consumers Most Want to Buy



Source: Author（2025）

About 25% of respondents were only willing to pay less than RMB 2,000 for a consumer robot, and almost 41% were willing to pay between RMB 2,000 and RMB 5,000. Only about 1% of respondents were willing to pay more than RMB 30,000 for these products (Figure 4.9).

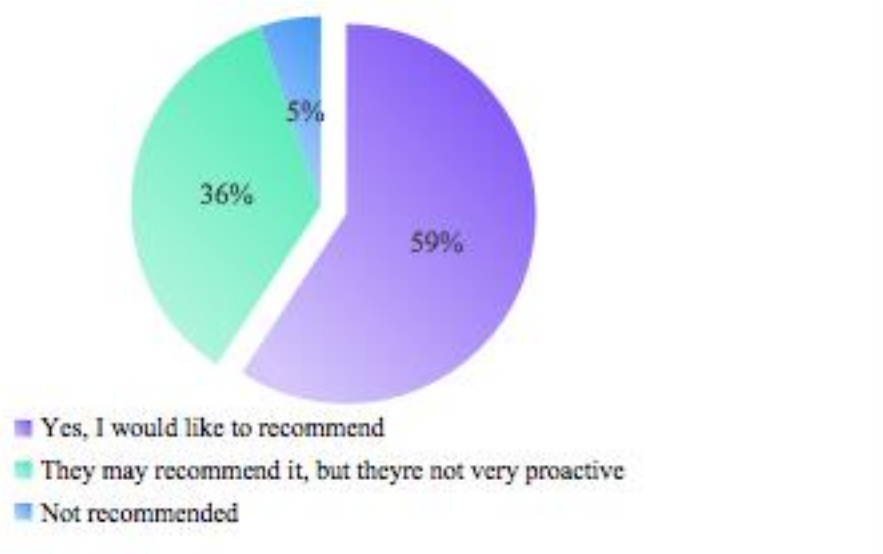
Figure 4.9 - Consumer price preferences



Source: Author（2025）

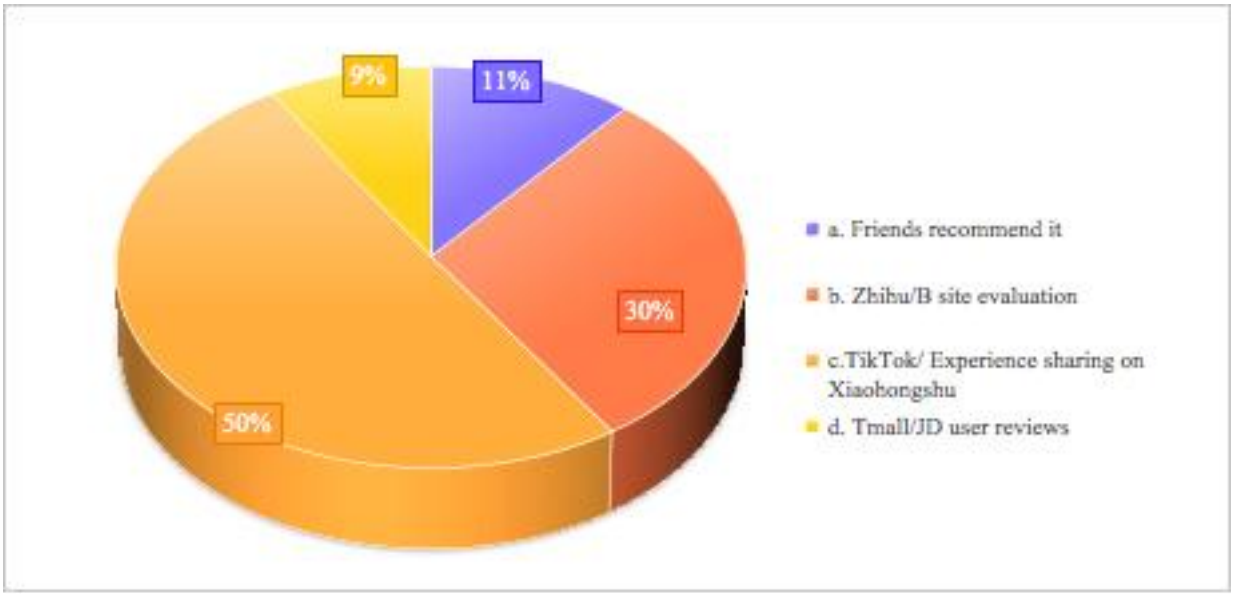
The majority of respondents would like to receive shared experiences about robots posted by online bloggers on online social media (Figure 4.10). And most respondents said they would be happy to recommend products (Figure 4.11).

Figure 4.10 - Customer access to information about consumer-grade service robotics robots



Source: Author（2025）

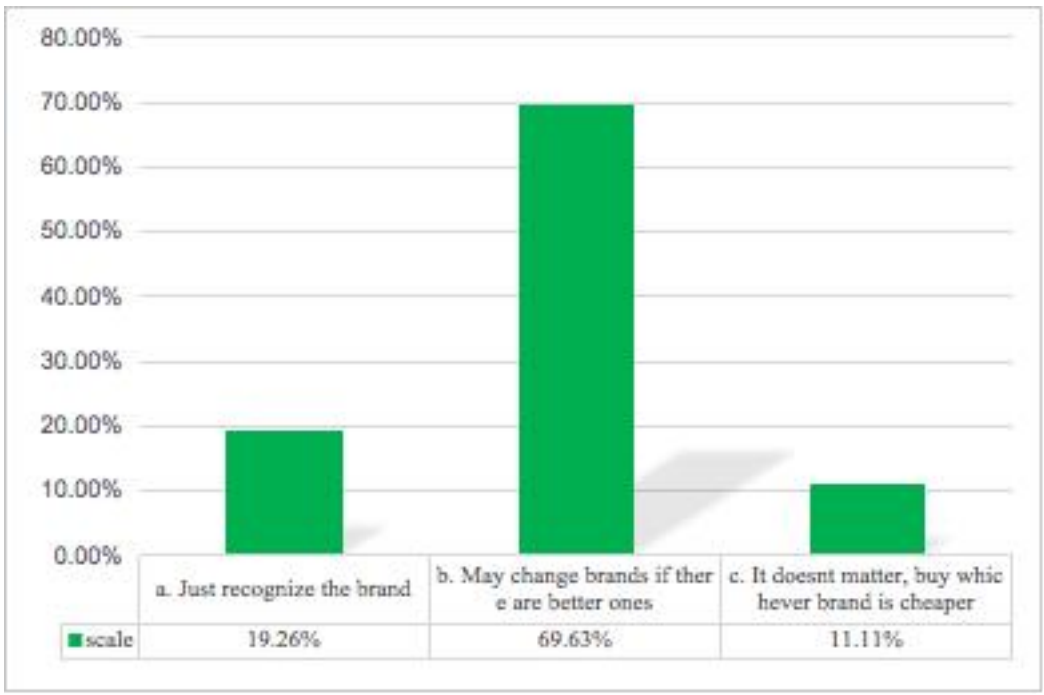
Figure 4.11 - Respondents' willingness to share robots online



Source: Author（2025）

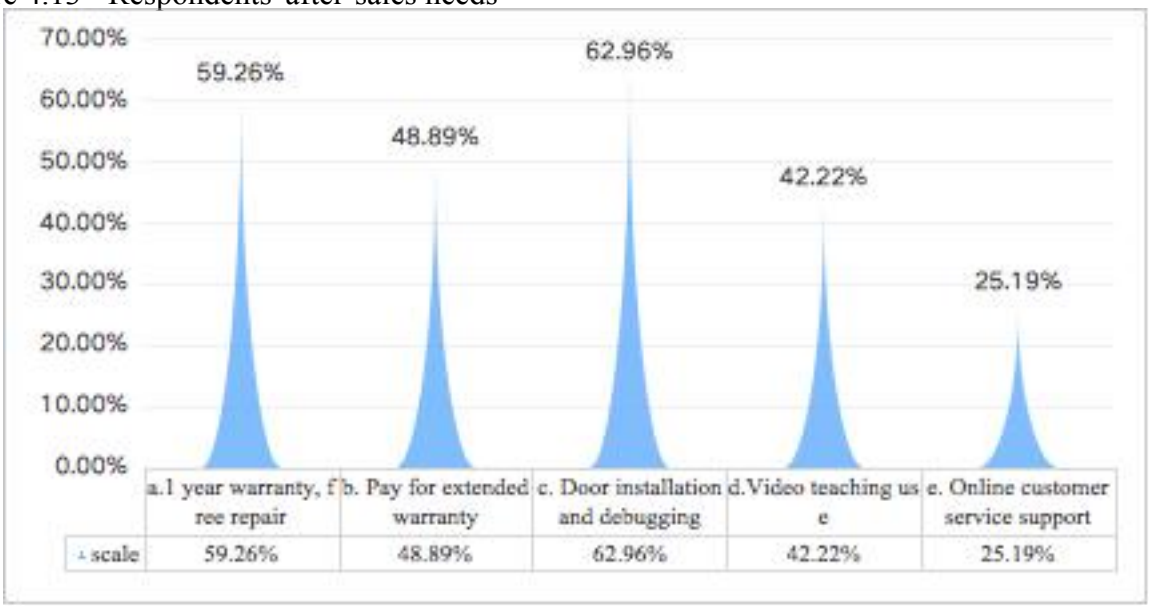
Only 19% of the respondents said that they are loyal to the brand, 70% of the respondents said that they will change the brand if there is a better one as shown in Figure (4. 12), most of the customers want to get after-sales services such as above installation, free maintenance, extended warranty, video explanation, etc. as shown in Figure (4. 13).

Figure 4.12 - Respondents' brand loyalty survey data



Source: Author（2025）

Figure 4.13 - Respondents' after-sales needs



Source: Author（2025）

4.3. Internal Situational Analysis

4.3.1. Characterization of the company

Company S was founded in 2012 with a registered capital of RMB 396 million. The company has invented and produced more than 50 kinds of robot-related products, and is a leading enterprise of humanoid robots and intelligent service robots in China. Company S has been engaged in the research and development, design, intelligent production and sales of intelligent service robots. It has built an intelligent robot solution integrating hardware, software, service and content, covering a wide range of industries, such as AI education, intelligent logistics, intelligent health care and business services. S Company is the first intelligent service robot solution company in China.

Company S is one of the top two intelligent service robotics solution providers in China, with full-stack technology capabilities, and the number one provider of intelligent robotics products and solutions in the education sector in China. Company S was also the first company in China to launch a commercially available bipedal life-sized humanoid robot, the first company in the world to reduce the cost of a bipedal life-sized humanoid robot to less than $100,000, and the first company in China to commercialise a small humanoid robot on a large scale. Company S is one of the few companies in the world to have developed a full-stack humanoid robotics technology, and Company S is one of the few companies in the world to have completed mass production of low to high torque servo actuators with torques ranging from 0.2 Nm to 200 Nm. As of 31 December 2024, S Company has a total of 2,680 authorized patents, of which invention patents account for 57.87%. reflecting its technological originality advantage. Table 4.2 presents the Company S' s milestones.

Table 4.2 - Company S's Milestones

Year	Milestones
2012	ThetCompany is founded and begins researching, developing and designing robots.
2015	Alpha Robotics exhibited at the China Hi-Tech Fair.
2016	540 Alpha robots performed simultaneously at China Central Television's Spring Festival Gala ("Spring Festival Gala"), one of the world's most-watched national network television broadcasts, which was registered as a Guinness World Record in 2016.
2017	Launch of Cruzr, an integrated service intelligence robot product. The company is included in CB Insights' Top 100 list, a list of the 100 most promising private companies in the world.
2018	Development of Walker, the first generation of humanoid robots. The total production of and servo actuators reached one million units. Selected for the 2018 'Internet Plus , Artificial Intelligence Innovation and Development and Digital Economy Pilot Major Project by the National Development and Reform Commission of the People's Republic of China, and undertook a project to industrialise high-end intelligent service robot products.
2019	The Chinese New Year party show. Named by MIT Technology Review as one of the "World's 50 Smartest Companies" worldwide.
2020	The service robot project was selected by the Ministry of Industry and Information Technology of the People's Republic of China as one of the key task entities for the new generation of AI industrial innovation. The project "Development and Application of Intelligent Control System for Service Robots" won the Wu Wenjun Award for Progress in Artificial Intelligence.
2021	The Robotics Industrial Design Centre was selected as the fifth batch of China's National Industrial Design Centres.
2022	The robot performed at the opening ceremony of the Beijing Winter Olympics.
2023	Named by Analytics Insight as one of the top 10 pioneering companies in the rise of humanoid robots.

Source: Author（2025）

4.3.2. Business Strategy and Positioning

Company S intends to implement the following business strategies:

. Further strengthen the Company's research and development capabilities to enhance the Company's core technology, product and solution offerings

. Continue to expand the Company's business through acquisitions/investments.

Strengthen the R&D infrastructure to enhance R&D capabilities and efficiency .

Enhance the Company's global brand awareness and market penetration

. Further improvement of the management and operational efficiency of the Company.

Positioning: S Company focuses on applied R&D, forward-looking R&D and commercialisation of core artificial intelligence and robotics technologies, providing multi-

industry solutions including commercial services, intelligent recreation and health care, public health and epidemic prevention, empowering new infrastructure and promoting intelligent transformation and upgrading of services in various industries.

4.3.3. Mission, vision and values

Mission - Bringing intelligent robots into every family, and making everyday life more convenient and intelligent.

Vision - Intelligent robots as the carrier, artificial intelligence technology as the core, to create a "software + service + content" intelligent service ecosphere

Values - Excellence and Innovation, Positivity and Toughness, Co-operation and Win-Win, Simple and Straightforward

4.3.4. Analysis of R&D and marketing expenses

After reviewing the company's 2023 financials (which are the most recent published financials) and speaking with company executives, it was found that the company has excessive R&D spending and poorly planned marketing spending for consumer robots that would generate positive returns.

1) R&D investment priorities

In 2023, the core R&D investment in technology of company S are AI, motor balance control technology, limb joint control technology. As of June 2024, the number of robotics and AI patents reached 2,450 (450 overseas), the world's first effective patents for humanoid robots.

2) High R&D expenses and long payback period

R&D expenses accounted for 46.4% of revenue in 2023, and the average R&D expense rate in the past four years exceeded 50%.S company's R&D is still focused on core technologies related to humanoid robots, but The whole industry is in the early stage, the supply chain is immature, the staff cost is high, the output is low, the selling price is high, and the sales are not able to meet the expectations.

The negative impacts are detailed below

- Financial performance: 2020-2023 cumulative losses of more than 3.9 billion yuan, 540 million yuan loss in the first half of 2024, operating cash flow continued to be negative
- Imbalance between R&D and cost of sales: R&D expenses accounted for more than 60% of revenue for a long time, but the sales of core products (e.g. Walker series) are extremely low (only 10 units sold in three years), which fails to cover the R&D investment.
- Gross margin decline: the overall gross margin will drop to 31.5% in 2023, mainly due to the increase in the proportion of low-margin logistics robots and the shrinkage of high-margin educational robots.

3) Unclear commercialization path

Dependence on government orders (To G business): the company focuses on investing in enterprise-level educational robots more than 80% of the revenue from the government and state-owned enterprise customers, but policy changes lead to unstable demand (e.g., a primary school in Hangzhou, the use of robots is extremely low. China's education reform and aging population trend in recent years will also lead to a decline in demand for robots in schools.

Low efficiency of technology realisation: the number of patents exceeds 2,450, but it focuses on B-end enterprise-grade humanoid robots and lacks C-end individual consumer-grade explosive robot products; the Walker series is priced at up to 5.98 million yuan, far beyond market acceptance.

Insufficient internal synergy: R&D, sales, and supply chain are disconnected, and strategic differences in management have led to the loss of the core team (e.g., former Tsinghua professor Zhao Mingguo left the company).

4）Digitalisation and online presence

Another identified gap was the lack of significant investment in digitisation. Analyses show that Company S has yet to tap the potential of online platforms such as Little Red Book, Tik tok and WeChat. These platforms have a large user base and provide opportunities to connect with different audiences. Investing in digital marketing can help increase customer engagement and conversion rates.

4.3.5. Analysis of the identified problems

After analysing the market questionnaire and reviewing the company's information, there are many problems with S Company's marketing process, products, pricing, place, and promotion, as presented below.

1) Product Problems

Insufficient differentiation of product functions

s company's educational robots used to be a core source of revenue, but the share of revenue plummeted from 82.7% to 33% in 2020-2023, partly due to the dependence on government bidding requirements for product functions and the lack of continuous market-oriented innovation. Although its products incorporate STEAM education concepts, it has failed to develop significant differentiated selling points (e.g., slow iteration of programming tools and course content), resulting in a low rate of customer repurchase. In contrast to the ‘ unique selling point’ requirement emphasised in the 4P theory, Company S's competitiveness in terms of product functionality is gradually weakening.

Fuzzy positioning of consumer-grade product lines

Consumer-grade robots (e.g., air radish cat litter machines, floor sweeping robots) grew relatively fast, but the gross profit margin was only 16.3%, reflecting that the products may have a cost-performance imbalance or functional redundancy. For example, cat litter machine and other household products lack a clear scenario-based design (such as the lack of intelligent linkage capabilities), failed to accurately meet the high-frequency needs of home users, resulting in limited market penetration.

2) Price Problems

Pricing strategy relies on a single model

s company's enterprise-level products (e.g. logistics robots) use cost-plus pricing method, relying on large customer orders (e.g. Tianqi accounted for more than 90% of the revenue of

the logistics business), resulting in limited space for price adjustments. This model may trigger profit compression in times of market volatility, e.g. logistics robot revenue growth in 2023 mainly relies on cooperation scale expansion rather than pricing strategy optimisation.

Insufficient price sensitivity management for consumer-grade products

The low gross margin of consumer-grade robots (16.3%) reflects the fact that their pricing may be overly based on the pay-as-you-go method, failing to enhance profit margins through brand premiums or perceived value pricing. For example, although UGOT's polymorphic educational robot supports AI programming, its pricing does not reflect its technological uniqueness, but instead falls into homogeneous competition with low-priced competitors.

3) Place Problem

Risk of over-concentration of channels

The company S's enterprise-level business is highly dependent on government and large corporate customers (such as educational robots rely on EDB tenders, logistics robots rely on Tianqi shares), leading to channel homogenisation. According to the 4P theory, channels should spread risks through a diversified network, but s Company has not yet established a distribution system for small and medium-sized enterprises, which makes its anti-risk ability weak.

Insufficient channel coverage in the consumer-grade market

The limited layout of online channels for consumer-grade products (e.g., insufficient penetration of e-commerce platforms for live banding) and the low density of coverage of offline experience shops have led to insufficient user reach efficiency. For example, new products such as borderless smart lawnmowers lack offline experience scenes, making it difficult to inspire consumer purchase decisions.

4) Promotion problem

Promotional tools favour short-term stimulation

s company's promotional strategy is based on short-term concessions (such as discounts on educational robots), lacking long-term brand value dissemination. For example, although the recreational robot won the Edison Award, it did not strengthen market awareness through case marketing or user stories, resulting in the technical advantages not being transformed into a consumer driver.

Weak integrated marketing communication capability

The promotion of consumer-grade products relies on the promotion of hardware parameters (e.g., 36 degrees of freedom of Walker S Lite) and neglects the communication of emotional value (e.g., the warm marketing of family companion scenarios). Compared with the 4P theory, which states that ‘promotions should lead to a change in consumer behaviour’, the company has shortcomings in content creativity and media integration.

4.4. SWOT Analysis

Strenghts

. Strong R&D capabilities: Company S possesses robust research and development capabilities, which contribute to innovation and product development.

. Wide range and quality of product offerings: Company S offers a wide range of high-quality products, providing customers with diverse options.

. Strong relationships with customers and end users: The company has established strong connections with its customers and end users, fostering loyalty and trust.

. Marketing and sales channels: Company S has effective marketing and sales channels in place to reach its target market and promote its products.

. Brand awareness: Company S has a high level of brand recognition, which enhances its reputation and competitive position.

. After-sales service: The company provides satisfactory after-sales service, contributing to customer satisfaction and loyalty.

Weaknesses

. Concentration in intelligent educational robots: Company S relies heavily on intelligent educational robots, which account for 60% of its business. This concentration poses a risk if demand shifts or competition intensifies in this segment.

. Fewer product categories, slower iteration .

Prices are too high

. Most of the sales channels are from offline and lack of digital marketing .

Few promotional activities and without a positive effect on sales

. Financial position: The company has experienced significant financial losses, totaling $2.4 billion over three consecutive years. This weak financial position hinders its growth and stability.

. Early-stage development of certain robot categories: Intelligent logistics robots and intelligent elderly robots are still in the primary development stage and lack brand influence, limiting their market potential.

. Cost structure problems: Company S faces cost structure issues, with sales costs accounting for 30% and R&D costs accounting for 43% of overall costs. This imbalance may impact profitability and competitiveness.

Opportunities

. Technological advancements: The robotics industry continues to witness technological breakthroughs, providing opportunities for Company S to enhance its product offerings and gain a competitive edge.

. Transformation of the digital economy: Robots play a significant role in reshaping the digital economy, enabling new ways of production and living. Company S can capitalize on this trend by developing innovative robotic solutions.

. Human-machine interaction and collaboration: Robots are facilitating improved human-machine interaction and collaboration, opening up new avenues for market growth and product development.

. Technological innovation and industrial upgrading: Robotics is increasingly driving technological innovation and industrial upgrading, presenting opportunities for Company S to contribute to these advancements.

. National competitiveness: The development of the robotics industry has become a vital indicator of a country's technological innovation competitiveness. Company S can position itself as a key player in advancing its country's competitiveness in this field

. Purchase power of the Chinese population .

Good economic situation of China

Threats

. Intense competition: The robotics industry faces fierce competition from well-known technology companies such as Boston, Tesla, Google, Huawei, Xiaomi, and others. The entry of cross-industry tech companies, including OpenAI, further intensifies the competition.

. Market saturation: As the robotics market matures, there is a risk of saturation, making it harder for Company S to differentiate its products and maintain market share.

. Technological advancements by competitors: Competitors' rapid advancements in robotics technology may pose a threat to Company S's market position if it fails to keep pace with or surpass their innovations.

. Regulatory challenges: The robotics industry is subject to evolving regulations and standards. Complying with these regulations and adapting to changes can present challenges for Company S.

4.5. Objectives of this plan

The objectives of Company S's commercial development plan are carefully formulated on the basis of internal and external analysis and customer surveys, and are of course closely related to the company's mission, values and positioning. The plan focuses on the following objectives :

- Increase the company's market share in consumer robotics.
-Revenue diversification.
-Attract new consumer robotics customers.
- Increase customer loyalty.

4.6. Commercial Strategy: Marketing, Sales and Business Development

Market Segmentation (Final consumers)

(I) Segmentation by consumer demand

1. Family service demand: for family cleaning, companionship, intelligent control and other needs, segmented into sweeping robots, cat litter machines, intelligent education robots and other product lines. For example, AiRROBO Air Carrot sweeping robot and cat litter machine focus on home cleaning and pet care scenarios.

2. Edutainment demand: For youth programming education and family entertainment, products such as Alpha Mini Goku (non-educational version) are launched, which combine STEAM education concepts to provide programming and interactive functions.

(ii) Breakdown by consumer group

1. young families and childcare groups: for families with children, emphasising the educational assistance and parent-child interaction functions of the products, such as intelligent educational robots and block robots, suitable for children of different ages.

2. Technology enthusiasts and geek groups: targeting consumers pursuing cutting-edge technology, offering products with advanced AI functions and programmability, such as the UGOT polymorphic educational robot that supports AI programming.

(iii) Segmentation by Consumption Scene

1. Internal home scenarios: according to the different areas and functional needs of the home, such as the living room, bedroom, kitchen, etc., the corresponding products are designed, such as sweeping robots suitable for cleaning the living room and bedroom.

2. Outdoor and special scenes: for outdoor scenes such as courtyards and gardens, develop products such as borderless smart lawnmowers to meet the needs of use in specific environments.

Targeting

Based on the market segmentation and company resources, s company company should focus on the following target markets:

1. growing family market: young families with children, high demand for education and family service robots, focusing on the educational function and cost-effectiveness of the products.

2. Technology seeker market: consumers who are sensitive to new technology and willing to try cutting-edge products, focusing on product innovation and technical uniqueness.

3. High-end home service market: consumers who pursue high quality life and have higher requirements for home service robots, focusing on product performance, design and brand value.

Positioning

Infiltrate family scenarios with cost-effective products so robots can make life smarter.

(I) Brand Positioning

Create the brand image of ‘intelligent life partner’, emphasise the humane design, intelligent interaction and high-quality service of the product, and meet the consumers' pursuit of convenient and intelligent life.

(II) Product Positioning

1. Education and entertainment products: Positioned as ‘family intelligent education assistant ’ , combined with STEAM education concept, providing rich programming and interactive functions to stimulate children's interest in learning and creativity.

2. Family service products: Positioned as ‘intelligent family housekeeper’, providing families with convenient and comfortable living experience through efficient cleaning and intelligent control functions.

3. Commercial service products: Positioned as ‘intelligent office assistant’, such as going out or home with an electronic pet machine robot can be quickly linked with mobile phones, computers and collaborative work, to meet the consumer demand for intelligent home and outdoor office.

(iii) Price positioning

The use of tiered pricing strategy:

1. low-end market: the introduction of moderately priced products, such as basic sweeping robots and cat litter machines, to meet the needs of mass consumers.

2. High-end market: targeting consumers who pursue high quality and advanced technology, provide flagship products with high-end configurations and features, such as Walker S Lite.

Customer Retention Strategies

(i) Enhance product quality and performance

Continuously improve the product features and stability to ensure good performance in home scenarios and increase customer satisfaction and loyalty.

(ii) Enhance after-sales service

Establish a perfect after-sales service system to provide timely technical support and product maintenance services to solve customers' worries.

(iii) Launch membership and loyalty programmes

Provide long-term customers with exclusive member benefits, product upgrade services and points rewards to encourage repeat purchases and referrals.

(iv) Personalised marketing and communication

Use data analysis to understand customer preferences and carry out personalised marketing activities and product recommendations to enhance the emotional connection between customers and the brand.

Sales Strategies

(i) Expanding diversified sales channels

1. Online channels: Strengthen cooperation with e-commerce platforms and carry out activities such as live streaming and online promotions to increase product exposure and sales.

2. Offline channels: increase the layout of offline experience shops, especially in shopping centres and home building materials markets, to provide consumers with the convenience of product experience and purchase.

(ii) Improve the pricing and promotion strategies

1. Flexible pricing: Adjust product prices in a timely manner according to market demand and competitive conditions, and launch pricing strategies such as limited-time offers and package combinations to attract more consumers.

2. Integrated marketing promotions: Combined with product characteristics and target markets, develop integrated marketing communication programmes to enhance brand awareness and product sales through multi-channel promotions such as advertisements, public relations and social media.

(iii) Strengthen sales team and community building

Train a professional sales team to improve the sales staff's understanding of the product and sales skills, to be able to better introduce the product advantages and application scenarios to customers, and to improve sales efficiency and customer satisfaction. At the same time, we will carry out community building and provide cash incentives for multiple purchases and referrals.

4.7. Marketing-Mix

Based on the problems identified by the internal and external analyses of the company S and the in-depth study of the questionnaire, combined with the objectives set, I will develop and implement the following combination of strategies

4.7.1. Product

The following actions are proposed：

1. Embedded in the high-frequency and immediate needs of family use scenarios: such as fall monitoring for the elderly, education for children's companions. Based on Nine's logic of

solving the pain point of lawn mowing through edge components, and Yushu Technology's quadruped robot targeting the pet companion market, we will make our products more responsive to the actual needs of families. For example, we will develop robots with child safety monitoring and AI interactive education functions, and cat-care robots to meet the needs of young families.

2.Technology decentralisation: downscaling industrial grade technology (e.g. improving the practical training efficiency of S's Walker S1) to consumer grade, e.g. optimising the motion control algorithms of home robots to improve their obstacle avoidance capabilities. Demonstrate the ability to transform technology into actual product advantages by downgrading industrial grade educational robot technology to the small educational robot Wukong to enhance product competitiveness.

3. Modular design: support users to upgrade or modify hardware or subscribe to software services (e.g. AI course library) on demand. Regularly collect user feedback and adjust the modular design according to market demand to ensure that the scalability of the product meets users' expectations.

4. Personalised customisation services: open up the appearance of customised skins (the IP co -branded models of Ultraman and Nezha) and functional modular options (adding the pet interaction module), and realise the C2M production mode through the design tool on the official website.

5. Subscription value-added services: the hardware is bundled with the 'Alpha+' membership service (RMB 99 per month), which provides AI course updates, remote device diagnosis and priority customer service channels to enhance user loyalty.

4.7.2. Price

The pricing policy should be as follow:

1. Pricing for market penetration

Entry-level model:

Alpha Mini Lite (priced at RMB1999) was launched, retaining the basic companion function, focusing on third- and fourth-tier cities and the silver-haired group, and achieving scale coverage by optimising hardware costs.

High-end premium model:

Alpha Home Pro adopts the "hardware + 5-year service" bundle pricing (total price of 12,000 RMB, saving 3,000 RMB compared with single purchase), strengthening the value perception of affluent users.

2. Loyalty incentive programme

Exclusively for old users:

discounted old models for new up to 2000 Yuan, binding membership renewal for half a year extended warranty. Old customers who have been using the product for more than three years can participate in the 1-month free trial of the new product.

Enterprise-level procurement:

education/pension organisations purchasing up to 50 units can enjoy the "1+1" policy (1 year maintenance package for each unit purchased).

3.Financial support

Interest free: Joint Alipay/Jingdong White Bar launched 24 interest-free instalments to lower the threshold for families to make decisions.

4.7.3. Place

Establishing some improvements on channels is key to ensure that Company S's educational robots effectively reach their target audience, driving engagement, awareness and market penetration. Using a multi-pronged approach, a comprehensive channel strategy is proposed for Company S that leveraged traditional strengths, while also venturing into the digital space to increase awareness and solidify brand resonance.

1. Offline experience shops:

Open "AI life pods" in shopping malls that simulate home scenes for in-depth interaction with users and enhance the user experience with reference to Nine's RTK technology. Select locations and partners with high and stable customer traffic to create an attractive offline experience environment.

2. Cross-border cooperation with smart home brand Xiaomi:

Well-known technology brand Xiaomi's has created a complete ecological chain home mall, embedded in the whole house smart solutions. Explore cooperation opportunities with other

brands to achieve the integration of robots with different brands' products in different scenarios to expand market coverage.

3. Cooperate with K12 institutions in the field of education:

Launch the "Robot Programming Curriculum Package" to address the immediate needs scenarios. Establish a long-term partnership with educational institutions to jointly develop appropriate AI robot curriculum content and increase product penetration in the education market.

4.7.4. Promotion

Guided by the insights gained directly from the questionnaire, the promotional strategy was carefully fine-tuned to closely align it with the unique preferences and desires of the customer, thus creating an unbreakable bond of engagement and satisfaction.

As such, the following promotion actions are proposed:

(i) Constructing a long-term promotional system for the marketing network

1. Short video matrix: This is an emerging shopping method in which customers directly purchase goods while watching videos.The theme of the video is '24-hour life diary of a robot', which is regularly released on Shake Yin, Station B and WeChat, showing real-life scenarios such as cooking, cleaning, children's companionship, health tips for the elderly, etc.The video is also used as a tool to promote the brand's popularity. The production of diversified content is aimed at attracting users from different platforms, enhancing brand awareness, and displaying the product purchase link to access the official website for purchase.

2. KOL live community: collaborate with prominent KOLs on Tiktok, Little Red Book, and the top 10 AI home KOLs to establish 50 active communities. Organise regular live sales, offering 20% discount coupons; engage technology bloggers to evaluate the effectiveness of the product (emphasising self-research, joint motors, and other domestic advancements); and collaborate with parenting bloggers to highlight the educational capabilities of robots.Regularly distribute product coupons, conduct gift giveaways, and utilise other promotional strategies.

(ii) Event marketing to trigger the topic

1. Initiate the 'universal task challenge' experience sharing, such as 'teach the robot to cook a dish', an excellent programme implanted in the product function library.Conceptualise engaging interactive activities to stimulate user participation and enhance brand topicality and user stickiness.

2. Binding with popular IPs: Cooperate with children's favourite superheroes such as 'Nezha', 'Monkey King' and 'Ultraman' to launch co-branded models, so as to enhance the brand's sense of technology.Use the influence of popular IP to attract more attention and enhance the market attractiveness of the product.

(iii) Initiate a community operation to deepen the viscosity and establish a 'Robot Creator Community'.

Users will be able to vote on the development direction of new functions and mark contributor IDs to enhance the sense of participation. Regularly organised community activities will enhance interaction between users and their sense of identification with the brand.

4.7.5 Customer Relationship Management and Loyalty Programme

(1) Establish a perfect after-sales service system:

Provide timely technical support and product maintenance services to resolve customer concerns. Establish a dedicated customer service team to ensure that customer issues are responded to and resolved quickly.

(2) Establish a membership and loyalty programme:

Provide long-term customers with exclusive membership benefits, product upgrade services and point rewards to encourage repeat purchases and referrals. Design attractive membership benefits to increase customer loyalty.

(3) Establish a customer personal data centre:

Personalised marketing and communication uses data analysis to understand customer preferences, conduct personalised marketing activities and product recommendations, and enhance the emotional connection between customers and the brand. Continuously improve personalised services through customer feedback to increase customer satisfaction.

4.8. Schedule

Company S needs to develop a schedule to implement the proposed action. It is very important to clarify the work schedule and responsibilities of each departmental work arrangements, and to successfully carry out effective marketing actions. As such, the specific timetable reference table is as follows.

Table 4.3- Schedule

TIME	Activities
January	Establishment of perfect after-sales service system Offline experience shop Co-operation with Xiaomi super Qianya Signing co-operation with K12 educational institutions
February	Establishment of membership and implementation of loyalty programmes Introducing subscription value-added services
March	Establishment of customer personal data centres
April	Pre-sale + Release of Home HF Products (Sweeping Robot, Cat Care Robot, Home Wellness Robot) Launch of the 'National Task Challenge' experience sharing
May	Build modular discussion and sharing community (website, applet) KOL live selling + community marketing
June	Alpha Mini Lite (priced at RMB1999) was launched, and High-end premium model: Alpha Home Pro adopts
July	Financial support, Interest free
August	Short video matrix
September	KOL Live Selling + Community Marketing
October	Launch of the 'Mission for All Challenge' story sharing
November	Launched Ne Zha and Sun Wukong co-branded skins KOL Live Selling + WeChat Group Marketing
December	KOL Live Selling + WeChat Group Marketing

Source: Author（2025）

4.9. Budget

The cost to be spent with the implementation of this commercial development plan is estimated on RMB28.5 million, with a breakdown of the specific items as shown below.

Table 4.4-Budget（RMB)

Activities	Budget
Perfect after-sales system	3 million
Offline experience shop co-operation	1.2 million
Cooperation with Xiaomi Home Online Superstore	1.2 million
Cooperation with K12 education institutions	1.2 million
Build membership points system	0.6 million
Subscription value-added services	0.3 million
Loyalty programme	1 million
Pre-sale + distribution of new high-frequency home robots	2 million
AI+Robot Community (website construction + pre-technology expert co-operation)	4 million
Short video matrix (Shake, Little Red Book, WeChat video number 20 accounts each synchronous operation)	5 million
KOL live bandwagon + WeChat group chat	6 million
National Mission Challenge	1 million
Nezha and Monkey King co-branded IP skins	2 million
total	28.5 million

Source: Author（2025）

4.10. Marketing Control and assessment

In order that Company S achieve a successful implementation of this plan, it is important to have a well-structured framework backed by key guarantees. These guarantees stand as pillars upon which the edifice of success is built, harmoniously combining strategic foresight, technological innovation, human resources empowerment, and financial sustenance.

Finally, the following KPIs are proposed to be measure the defined objectives of this plan:

Table 4.5-Control and Assessment

Objectives	KPI
Increase the company's market share in consumer robotics.	Increase in market share by 10 per cent
Revenue diversification.	Ai programming courseware added revenue of RMB200 million
	New sweeping robot revenue increased by RMB100 million
	Cat care robot revenue increased by RMB50 million
	100 million RMB increase in revenue from home care robots.
Attract new consumer robotics customers.	100,000 new robot users
	50,000 new software programming course customers
Increase customer loyalty	90% positive feedback rate from customers every month
	50,000 new customers recommended by old customers
	50% repurchase rate of old customers over the years

Source: Author（2025）

5. Conclusions

Nowadays, service robots have entered the era of intelligence and in this thesis, the focus of Company S's commercial development plan is consumer-grade service robots, which is an exceptionally intense market.

This thesis develops a commercial development plan based on internal and external analyses of Company S. The plan aims to increase the company's market share in service robotics, attract new customers, increase the loyalty of existing customers, and diversify its operating income.

Firstly, this project mainly focuses on the collection and organisation of the required information and documents, including literature review, expert interviews, questionnaires and so on.

Secondly, on the theoretical basis of marketing environment analysis, PESTE analysis was used, from the gradual improvement of the policy environment, China's economic upward trend is obvious, the social and cultural level of the people's acceptance is high, the aging of the population is strengthened, and the technological revolution is updated and iterated quickly, and so on. In the internal environment analysis, the basic overview and marketing status of Company S, customer preference and problems in marketing are studied respectively, and then the opportunities and threats, disadvantages and advantages of Company S are analysed by SWOT.The budget of this commercial development plan is RMB 28.5 million.

Thirdly, based on the above analyses, and then combined with the results of the questionnaire data. Through market positioning, this thesis formulates the business development plan of S Company, improves the after-sales service system, creates the AI robot community co-created by customers, VIP subscription services, etc., and short video matrix in WeChat, TIktok, Little Red Book, etc.; establishes the customer's personal data centre to facilitate the provision of customized services for the customer; ploughs deep into the market of home robots, and launches multi-scenario robots (such as sweeping robot, Diversification of channels: offline experience shops in developed cities, online and K12 education platform AI robotics courses, programming classes; Xiaomi Mall; developed a long-term promotional programme: through WeChat, tiktok, Little Red Book live video to send product information and coupons; KOL live selling + WeChat group chat marketing; existing customer referrals incentive campaigns; co-creation of marketing storytelling content with clients; IP co-branding and customisation

Project Limitations: Since there are few direct references to market research on service robots in the existing literature, and the internal and external environment of the company is constantly changing, the current commercial development plan is based on previous internal and external environment analysis.

Research direction suggestion: Regarding China's international marketing plan for service robots in Southeast Asia, such as Singapore, these countries are characterized by a large number of Chinese, a developed economy, high labor costs, and an aging population with China's trade tax policies that have a large advantage over European and American countries.

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Appendices

Appendix A – Educational Robotics Questionnaire

Service robot questionnaire

Question 1 Your gender: [single choice question]

option	subtotal	scale
man	45	33.33%
woman	90	66.67%
Number of valid entries for this question	135	

Question 2 Age [single choice question]

option	subtotal	scale
a) 18-24	40	29.63%
b) 25-34	54	40%
c) 35-44	32	23.7%
d) 45-54	5	3.7%
e) 55 years of age or older	4	2.96%
Number of valid entries for this question	135	

Question 3 Educational background [Multiple choice question]

option	subtotal	scale
junior middle school	6	4.44%
senior middle school	15	11.11%
undergraduate college	92	68.15%
Master Degree Candidate	18	13.33%
doctoral candidate	4	2.96%
Number of valid entries for this question	135	

Question 4 Occupation [Multiple choice question]

option	subtotal	scale
a) student	31	22.96%
b) Employment (full-time)	74	54.81%
c) Employment (part-time)	19	14.07%
d) Self-employed persons	10	7.41%
e) retire	1	0.74%
Number of valid entries for this question	135	

Question 5 What kind of robot do you want to buy in the future [multiple choice]

option	subtotal	scale
a. Household (sweeping, doing simple housework)	78	57.78%
b. Medical support (rehabilitation, data monitoring)	30	22.22%
c. Education (learning intelligence companionship)	20	14.81%
D. Office and commercial use	7	5.19%
Number of valid entries for this question	135	

Question 6 What is your motivation for buying a service robot [single choice]

option	subtotal	scale
A. Improve efficiency	29	21.48%
B. Reduce personal costs	21	15.56%
C. Improving quality of life	72	53.33%
D. Technical hobbies	12	8.89%
E. Curiosity, experience	1	0.74%
Number of valid entries for this question	135	

Question 7 Do you think the frequency of service robot use is ? [Multiple choice question]

option	subtotal	scale
every day	61	45.19%
weekly	51	37.78%
monthly	14	10.37%
a fat lot	7	5.19%
unsuited	2	1.48%
Number of valid entries for this question	135	

Question 8 Which factors are most important to you when considering the purchase of a service robot? [Single choice question]

option	subtotal	scale
A. Price and affordability	40	29.63%
b. Reliability and performance	59	43.7%
c. Ease of use and user-friendly interface	22	16.3%
D. Brand reputation and credibility	12	8.89%
e. After-sales (warranty and customer support)	2	1.48%
Number of valid entries for this question	135	

Question 9 What is the acceptable price range for service robots (RMB)? [Single choice question]

option	subtotal	scale
a. <2000	33	24.44%
b. 2,000 - 5,000	56	41.48%
c. 5,001 - 1,0000	29	21.48%
d. 10,001 - 30,000	15	11.11%
e. 30,001 and above	2	1.48%
Number of valid entries for this question	135	

Question 10 Which payment method do you prefer [single choice question]

option	subtotal	scale
lump-sum payment	75	55.56%
Installment payment (interest free for 3-12 periods)	48	35.56%
Subscription model (pay monthly)	12	8.89%
Number of valid entries for this question	135	

Question 1 1 Which factors do you think will prompt you to increase your budget (multiple choice) [single choice question]

option	subtotal	scale
A) More powerful Ai delivery	46	34.07%
b) Longer battery life	47	34.81%
C) Better after-sales service	36	26.67%
d)IP jointly signed	6	4.44%
e) Like colors	0	0%
Number of valid entries for this question	135	

Question 1 2 If you buy a service robot, which channel do you prefer to buy it from [multiple choice]

option	subtotal	scale
A) Online e-commerce	28	20.74%
b) Brand website	54	40%
C) Offline experience stores	43	31.85%
D) Live delivery	8	5.93%
E) Others (please indicate): _____	2	1.48%
Number of valid entries for this question	135	

Question 1 3 How would you like to know about the product before you buy it [single choice]

option	subtotal	scale
A) Online evaluation video	37	27.41%
B) Offline experience store experience	84	62.22%
C) Live delivery interaction	14	10.37%
Number of valid entries for this question	135	

Question 1 4 Your after-sales preference [multiple choice]

option	subtotal	scale
A) 1 year warranty, free repair	80	59.26%
b) Pay for extended warranty	66	48.89%
C) Door installation and debugging	85	62.96%
D) Video teaching use	57	42.22%
E) Online customer service support	34	25.19%
Number of valid entries for this question	135	

Question 1 5 How do you usually get information from [Multiple Choice Question]

option	subtotal	scale
A. Friends recommend	15	11.11%
B. Zhihu/B site evaluation	40	29.63%
c.TikTok/ Experience sharing on Xiaohongshu	68	50.37%
D. Tmall/JD user reviews	12	8.89%
Number of valid entries for this question	135	

Question 1 6 Which promotion will attract you most [multiple choice question]

option	subtotal	scale
Full discount coupons	36	26.67%
Gifts (such as accessories, software) when purchasing	63	46.67%
Member exclusive discounts (such as software VIP)	29	21.48%
Friends get cash rewards	7	5.19%
Number of valid entries for this question	135	

Question 1 7 Your current brand loyalty to robots [multiple choice question]

option	subtotal	scale
A. Just recognize the brand	26	19.26%
B. May change brands if there are better ones	94	69.63%
c. It doesnt matter, buy whichever brand is cheaper	15	11.11%
Number of valid entries for this question	135	

Are you willing to join a community (such as wechat, TikTok, Xiaohongshu)? [Multiple choice question]

option	subtotal	scale
Willing to receive information about technical support and preferential activities	115	85.19%
under protest	20	14.81%
Number of valid entries for this question	135	

Question 19 Are you willing to recommend sharing your robot experience on social media [single choice]

option	subtotal	scale
Yes, I would like to recommend	80	59.26%
They may recommend it, but theyre not very proactive	48	35.56%
Not recommended	7	5.19%
Number of valid entries in this question	135	