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**STRATEGIC MANAGEMENT ANALYSIS --  
A PEDAGOGICAL CASE STUDY OF ALI-HEALTH**

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Master's in Business Administration

Supervisor:  
Marjan Sara Fonseca Jalali, Associate Professor, Iscte - University Institute Of Lisbon

October, 2021





**BUSINESS  
SCHOOL**

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Department of Business Administration

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## **Resumo**

A combinação da Internet e da indústria médica formou o modelo de serviço médico através da Internet (telemedicina), que na China trouxe mudanças sociais significativas. O modelo de serviço médico através da Internet ajudou a China a reduzir a desigualdade na distribuição de recursos médicos, a gerir o grande número de pacientes com doenças crónicas e a reduzir os elevados níveis de pressão sentidos pelos profissionais de saúde. Com a pandemia da COVID-19, as vantagens da telemedicina tornaram-se ainda mais claras, e os governos de vários países, incluindo a China, lançaram leis e políticas relevantes para promover o desenvolvimento de empresas médicas na Internet.

Na China empresas ligadas à telemedicina continuaram a crescer e a promover o desenvolvimento da indústria. A Ali-Health é uma dessas empresas e que já há muitos anos entrou nesta área. Trata-se de uma empresa muito conhecida e um amplo negócio, a qual já conquistou uma quota de mercado considerável. Enquanto caso de estudo, a Ali-Health pode ajudar estudantes da área da gestão a compreender melhor esta indústria e a aplicar conhecimentos e conceitos de gestão estratégica relevantes à indústria e à Ali Health em particular. Esta dissertação usa ferramentas e modelos de análise estratégica, como o modelo VRIO, análise PESTEL, modelo das cinco forças e análise SWOT para realizar uma avaliação do contexto interno (recursos e capacidades) e ambiente externo (geral e indústria) da Ali-Health. São apresentadas possíveis alternativas de desenvolvimento futuro da Ali-Health, as quais poderão ser úteis ou servir de exemplo a profissionais e empresas em áreas semelhantes.

Palavras-chave: Estratégia, Gestão estratégica, Internet Medical Care.

Códigos de classificação JEL: M10; L81

## **Abstract**

The combination of the internet with the medical industry has formed the internet medical service model, which in China has brought significant social changes. The internet medical service model has helped China improve the uneven distribution of medical resources, the large number of patients with chronic diseases, and the high levels of pressure on medical workers. Since the outbreak of COVID-19, the advantages of telemedicine have become even clearer, and the governments of various countries, including China, have launched relevant laws and policies to promote the development of internet medical enterprises.

In China, internet-related medical enterprises continue to grow and promote the development of the industry. Ali-Health is a representative enterprise that entered this field a long time ago. It is a well-known company, with a good reputation and extensive business, which has achieved a considerable market share to date. Taking Ali-Health as a pedagogical case study can help students majoring in management to understand this industry better and apply relevant knowledge and concepts of strategic management to this company. This dissertation proposes the use of tools and models such as the VRIO Model, PESTEL Analysis, the Five Forces Model and SWOT analysis for the analysis analysis of the internal context (its resources and capabilities) and external environment (both macro and industry level) of Ali-Health. Future potential development directions for the company are summarized and may also provide practical suggestions for practitioners and enterprises in similar areas.

**Keywords:** Strategy, Strategic management, Internet Healthcare.

**JEL Classification Codes:** M10; L81

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## **List of Abbreviations**

**APP** –Application

**AIDS** – Acquired Immune Deficiency Syndrome

**AI** – Artificial Intelligence

**COVID-19** – Corona Virus Disease 2019

**CNNIC** – China Internet Network Information Center

**CEIC** – China Entrepreneur Investment Club

**CMCC** – MediXchange for Combating COVID-19

**GDP** – Gross Domestic Product

**GMV** – Gross Merchandise Volume

**HK** –Hongkong

**IoMT** – Internet of Medical Things

**IoT** – Internet of Things

**O2O** – Online to Offline

**RBV** – Resource-Based View

**U.S.** – United States



## 1. Introduction

Strategy is a general plan to achieve one or more long-term or overall goals under conditions of uncertainty (Freedman,2013). In the field of management, strategic management involves organizational managers formulating and implementing major goals and initiatives on behalf of stakeholders, based on consideration of resources and assessment of the internal and external environment in which the organization Operates (Nag, Hambrick & Chen, 2007). Strategic management can help enterprises clarify structure, build culture, attract talents, and improve their core competitiveness. Strategy is far more complex and challenging than it seems, and for a long time, building and executing it well has been seen as promoting a source of competitive advantage (Waal, 2013).

Strategic management exists in all industries, including the internet healthcare industry. It is undeniable that the internet has had a considerable impact on many sectors in today's world. For example, in transportation, the government can use sensors and cameras at every corner of the road to carry out real-time information transmission through the internet, and the background system can effectively detect the specific situation of road vehicles to maintain traffic safety. Today's healthcare industry largely relies on the internet in many ways to provide the type of care that patients have come to expect. The internet has benefitted both patients and healthcare professionals. Patients can make appointments through internet devices, carry out telemedicine, learn about health consultation, and view their electronic prescriptions. As the internet provides hospitals with more advanced artificial intelligence systems and patient consultation systems, medical staff can carry out daily work more efficiently and reduce the pressure of medical staff to a certain extent. As such, strategic management is vital for internet medical enterprises and society. With the development of the internet in China's medical industry, more and more internet medical companies have appeared in the public view. internet medical companies usually use internet information technology to carry different medical electronic devices or internet medical application terminals (mainly mobile phones and computers) to provide consumers with medical services, including telemedicine, medical

internet of things, medical e-commerce, and online appointment. According to TianYanCha, an authoritative business inquiry in China, there were nearly 9,700 internet medical-related enterprises in China in 2020. Among them, almost 70% of the enterprises had been established between 2018 and 2019. It is worth noting that, in 2020, the number of internet medical-related enterprises in China increased by more than 5,200, with an annual growth rate of 215%, the highest in history.

Ali-Health is one of many online medical companies. According to the 2020 China internet medical industry report, Ali-Health is one of the top three internet medical companies in China, and it is very research-oriented. Ali-Health continues to expand its blueprint for the internet medical field as part of Alibaba Group's bigger projects, which include internal incubation, investments, acquisitions, alliances, and other strategic approaches. But where does Ali-Health's core competitiveness lie? What advantages does it possess? What are the internal factors and external conditions that can affect the development of Ali-Health? Why does Ali-Health pay so much attention to the medical service model? All these questions are deepened throughout this study.

The purpose of this pedagogical case study is to provide students majoring in management with a specific case about the internet medical field. This dissertation uses specific strategic analysis tools to analyze Ali-Health's internal resources and capabilities, external environment, and industry competition, and further discusses potential future development directions for Ali-Health. This study is not only helpful for students majoring in management to study internet medical enterprises, and it can also be used by other internet medical enterprises to analyze their own strategic decisions and hopefully improve their strategic management. In the following section, the basic situation and development process of the internet medical industry and Ali-Health are summarized, and relevant questions about this case are proposed. A further literature review is carried out to sort out and summarize the relevant knowledge points of strategic management and internet medical treatment. Finally, combined with the content of the case study and strategic management-related knowledge points, analyze, and answer the questions raised.

## **2. Case – Ali-Health and the Internet Medical Industry**

### **2.1 Problem identification**

Internet industry medical is a new industry, attracting more and more people to pay attention to it. Before the internet was applied to the medical service industry, patients/consumers needed to spend more time, energy, and money to meet their medical service needs. Nevertheless, now, the emergence of internet medical companies such as Ali-Health has changed the status quo. However, problems also followed. More and more people begin to pay attention to this industry and join in, bringing unprecedented competition and challenges to Ali-Health. With the COVID-19 outbreak, people's awareness of the healthcare delivery model has changed, which may be a good opportunity for Ali-Health. Therefore, how Ali-Health should respond to these changes is the main issue of this case study.

### **2.2 Sector Analysis**

#### **2.2.1 Overview of internet medical services industry**

Using the internet as a source of medical information is becoming more popular as more patients “go online.” As far back as 2000, the Pew research center reported that 52 million American adults, or 55 percent of internet visitors, use the websites to obtain health or medical information. In 2005, 88.5 million adults used the internet to research health information and health-related products and communicate with providers. A large amount of medical information can be accessed through an estimated 20,000 to 100,000 health-related websites (Diaz et al., 2002).

The world is currently transitioning to the Fourth Industrial Revolution or Industry 4.0, and this means that the era of using information technology to promote the change of the industrial era, that is, the intelligent era has come. Industry 4.0 includes many different technologies and innovations that have revolutionized the medical field (Paul et al., 2021). The internet technologies enable telemedicine and artificial intelligence diagnostics to help doctors with treatment and diagnosis and improve the efficiency of healthcare systems by helping patients overcome geographic and income challenges (Magsi et al.,2018). Internet medical enterprises

and hospitals can develop a healthcare system specifically for some particular groups of people (such as the elderly, pregnant women, and patients with chronic diseases) with professional medical knowledge and advice and disease monitoring. (Jagadeeswari et al., 2018). A pharmaceutical e-commerce platform can provide transactions and services for consumers and pharmaceutical retail enterprises (Li & Huang, 2019). Hospitals can build an electronic medical record system based on the internet, realize the storage of medical records through information technology, and enable doctors, patients, and management staff to access medical records online at any time (Zhu & Hou, 2018). The internet hospital is a new outpatient medical method that provides health services through internet technology. It enables patients to consult doctors in top hospitals in first-tier cities<sup>1</sup> through websites or smartphone applications (Xie et al., 2017).

The internet has integrated into health care in many ways, for example, the internet of Medical Things (IoMT), i.e., the Network of internet-Connected Medical Devices, hardware infrastructure, and software applications that connect healthcare information technology. Luna-Delrisco et al., 2018 believe that the internet of Things can effectively improve public health, if conditions (price, technology, policy support or other factors) allow; and while the authors' focus was on Latin America, their conclusions likely apply worldwide.

### **2.2.2 Background of China's internet healthcare development**

The economy is an essential factor affecting an enterprise or even an industry. In 2019, China's Gross Domestic Product (GDP) was 98,651.5 trillion yuan (about 12,980.5 trillion euros), an increase of 6 percent over the previous year. Furthermore, over the past three years, China's economy has grown at an average rate of 5%<sup>2</sup>. From 2015 to 2019, China's unemployment rate

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<sup>1</sup> First-tier cities: A class of cities in China based on population size, level of urban development, comprehensive economic strength, radiating power, consumer spending, transportation accessibility. China's first-tier cities include Beijing, Shanghai, Guangzhou, Shenzhen.

<sup>2</sup> China National Bureau of Statistics, [http://www.stats.gov.cn/tjsj/zxfb/202012/t20201230\\_1811893.html](http://www.stats.gov.cn/tjsj/zxfb/202012/t20201230_1811893.html)



dropped from 4.1 percent to 3.5%, according to China entrepreneur investment club Data (CEIC).

China is the world's most populous country, with a total population of 1.41 billion.<sup>3</sup> In 2020, data from China's National Bureau of Statistics showed that China had 196.04 million people over 65, accounting for 13.5% of the population. According to the standard of the United Nations, if the proportion of people aged 65 or older exceeds 7%, it is an aging society, and if it reaches 14%, it is a profoundly aging society<sup>4</sup>. Having a large population and aging population will bring a considerable workload and financial burden to hospitals and the government. Therefore, the government needs to find appropriate solutions to reduce the pressure on hospitals and the workload of medical workers. This promotes the internet to enter the medical industry to bring more efficient service models for hospitals, governments and patients.

According to the 2018 China National Health and Nutrition Data Report, 20 percent of people in China suffer from chronic diseases, mainly cardiovascular diseases, cancer, chronic respiratory diseases (79.4%), hypertension (25.2%), diabetes (9.7%), and chronic obstructive pulmonary disease (9.9%). Moreover, the mortality rate of chronic diseases in China is as high as 86.6%. In addition to effective drugs, patients with chronic diseases need regular doctor's visits and effective home care.

Here, comparing medical resources in China, the United States, and Japan helps explain why the internet medical service model can become an effective way to solve the disease management of chronic patients, improve the existing medical environment in China, and improve medical efficiency. According to the comparison in Table 1, in terms of the proportion of population, the proportion of nurses in China (2.94%) is much lower than that in the United States (11.74%) and Japan (11.34%). Thus, nurses in China have more workload. In terms of spending, China spends less on health than the other two countries, the U.S. and Japan. internet

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<sup>3</sup> China National Bureau of Statistics, [http://www.stats.gov.cn/english/PressRelease/202108/t20210816\\_1820573.html](http://www.stats.gov.cn/english/PressRelease/202108/t20210816_1820573.html)

<sup>4</sup> See World Population Ageing 2019, Published by the United Nations, 2019.p5-6.

medical services may be the most feasible and effective way to address the needs of patients and the work pressure of medical staff in China.

Comparison of medical conditions in China, The United States (U.S.), and Japan			
	China	The United States (U.S.)	Japan
Total number of people (as of 2018) Unit: 10,000	139,538	32, 720	12, 644
Number of hospitals	33, 009	6,146	8,372
Number of hospitals per 100,000 population	2.37	1.88	6.62
Number of hospital beds per 1,000 population	4.67	2.82	12.23
Number of practicing (assistant) doctors	3,607,000.00	849,126(2017)	308,105(2016)
Number of licensed (assistant) doctors per 1000 population	2.59	2.61(2017)	2.43(2016)
Number of Registered Nurses	4,099,000.00	3,824,970(2017)	1,439,721(2016)
Number of registered nurses per 1000 population	2.94	11.74(2017)	11.34(2016)
Health spending as a percentage of GDP/100%	6.40	16.80	10.90
<p><i>Population data source:</i> 2018 data from the National Statistics Bureau of China, the United States, and Japan. <i>China data source:</i> 2018 Statistical Report on Health Development in China, released by the National Health Commission <i>U.S. data source:</i> 2018 AHA Annual Survey -- American Hospital Association <i>Japan data source:</i> 2018 Healthcare Facilities (Dynamic) Survey/Summary of Hospital Reports - Japan Ministry of Health, Labour and Welfare</p>			

**Table 1** – Comparison of medical resources in China, the United States, and Japan

Internet medical services can help these patients with chronic diseases check their condition regularly through online follow-up visits and relieve medical staff's work pressure. Thus, the Chinese government has turned its attention to the internet to help solve the problems of having chronically ill populations and a shortage of health care workers. In 2018, China's state council issued some Suggestions about the development of internet healthcare<sup>5</sup>. The main content of these suggestions was to improve China's internet medical service system, promote internet and medical and health services, perfect medical institutions' (hospitals, clinics, medicines, and internet platforms) management and service levels, and improve the

<sup>5</sup> See Report about promoting 'internet & health', China state council, 15<sup>th</sup> April, 2018.

infrastructure to ensure adequate medical institutions. At the same time, the government would also strengthen the supervision and information assurance of the medical industry and enhance the quality of medical care. In July 2018, the Health Commission of The People's Republic of China released a document on the Management of internet diagnosis and treatment, further regulating internet diagnosis and behavior of therapy and providing robust protection for consumers.

In order to further promote the development of the internet in the medical field, the government continues to open the right of internet medical services, including the online distribution of drugs and online consultation platforms, to attract residents' attention to internet platforms. In December 2019, the "New Drug Administration Law" took effect, which removed restrictions on online sales of prescription drugs and adopted the same standards and regulatory principles for online and offline sales while stressing the importance of a drug traceability system.

According to the China internet Network Information Center (CNNIC) report<sup>6</sup>, China had 989 million internet users in December 2020, up 85.4 million from March 2020; and the internet penetration rate<sup>7</sup> reached 70.4 percent. The scale of China's internet users and the government's policy support enable internet medical services and internet-related industries to have the opportunity to develop rapidly. The novel coronavirus (COVID-19) outbreak in 2020 had a massive impact on the economy and people's lives, but it also brought opportunities to develop the internet healthcare industry. Due to the advantages of quick response, no contact, and breaking through geographical space, the utilization rate of internet medical treatment increased. Under the impact of the COVID-19 epidemic in 2020, residents' demand for the use of medical

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<sup>6</sup> See "Statistical Report on internet Development in China", China internet Network Information Center, page1,2021

<sup>7</sup> Internet penetration rate: Ratio of internet users to total population.

e-commerce and internet medical platforms thus further enhanced, contributing to the rapid growth of the user scale<sup>8</sup>.

### 2.2.3 Development of China's internet medical industry

According to the “2019 China internet Medical Market Data Research Report” released by the China Electronic Commerce Research Center, in 2015, the size of China's internet medical market was 32.7 billion yuan (429 million euros)<sup>9</sup>, with 176 million users. By 2018, that figure had grown to 73.8 billion yuan (968 million euros) and 334 million users.

In terms of taxation, China's statutory corporate income tax is 25 percent since 2011. According to China's current tax policy, the government reduces taxes for high-tech enterprises and collects corporate income tax at a rate of 15%. Alibaba Group and Ali-Health are among the companies receiving tax cuts.

Huge user groups and high market size lead to capital and companies pouring into the internet medical service industry. The main segments of internet medical services in China are appointment registration, medical education & health management, consultation and medical community, internet hospital, prescription and medication, medical e-commerce, and doctor's assistance. Table 2 shows the general classification of China's internet medical industry, and some representative companies of each area as well as their service content.

Part of the internet medical service platforms and service contents in China		
Category	Company	Service content
<b>Medical apparatus and instruments</b>	<i>Wellead</i>	Provide patients or hospitals with medical devices, testing reagents, wearable devices, and precision medical services with professional technical means.
	<i>KEYA MEDICA</i>	
	<i>DAAN GENE</i>	
<b>Appointment services</b>	<i>Baidu Health</i>	Provide 24hour online consultation and doctor appointment channels.
	<i>Ali-Health</i>	
	<i>Ping An Good Doctor</i>	

<sup>8</sup> See “2020-2021 China internet Medical Industry Development White Paper”, IiMedia Consulting, available at < <https://www.iimedia.cn/c400/77397.html>>

<sup>9</sup> According to the bank of China exchange rate in 2021:100 euros =762.7 RMB, see <https://www.boc.cn/sourcedb/whpj/>

<b>Medical e-commerce</b>	<i>Jingdong Health</i>	Provide online sales platforms for medical supplies, including drugs, health products, mother and baby products, medical devices. Can provide customers with immediate purchase services.
	<i>Ali-Health</i>	
	<i>360kad.com</i>	
<b>Medical examinations</b>	<i>Health 100</i>	Provide health examination, health management, and health consulting services. Compared with the hospital, the service content is more efficient (one-stop service process), personalized (genetic testing), and high service quality (one-to-one service).
	<i>iKang</i>	
<b>Disease management</b>	<i>D nurse</i>	Provide disease-related services such as diet, treatment, evaluation, and data (medication) records for patients, especially those with chronic diseases, like hypertension and diabetes. At the same time, it also provides intelligent medical internet devices to assist consumers in completing self-examination.
	<i>ikangsai</i>	
<b>The doctor tools</b>	<i>Dingding Doctor</i>	Provide doctors with scientific research services, medical information, and a learning platform.
	<i>OXY (Ding xiang yuan )</i>	
<b>Medical artificial intelligence services</b>	<i>KingMed Diagnostics</i>	Provide leading medical diagnostic information integration services and electronic medical record systems for hospitals in China.
	<i>IFLY TEK</i>	
	<i>DHC (Donghua software)</i>	
<b>Pay the agency</b>	<i>Alipay</i>	Provide medical payment channels, including commercial online payment (Alipay), commercial medical insurance payment (China Life Insurance), and government medical insurance payment (Social insurance).
	<i>China Life</i>	
	<i>Social Insurance</i>	
<b>Medical informatization</b>	<i>HUAWEI Cloud</i>	The use of the technological advantages of the internet to provide a new health care service mode for hospitals to adapt to complex and changeable application requirements and business scenarios.
	<i>Winning HEALTH</i>	
	<i>RuiJie Networks</i>	

**Table 2** – Part of the internet medical service platforms and service contents in China

(Source: China internet medical company official website)

Among these participants, watch out for Ali-Health, an Internet medical service company founded in 2014 and successfully listed, a giant in China's internet medical industry. Ali-Health's business scope is vibrant and extensive: medical e-commerce, internet medical care, consumer medical services, intelligent medical services, and drug product traceability. In China, Ali-Health's primary competitive pressure comes from some multinational enterprises and domestic internet groups, which also have advantages in Internet technology, rich technological resources, and capital capacity. For example, Huawei is known as a telecommunications equipment manufacturer, and Huawei cloud is one of the businesses of Huawei Group. Huawei cloud provides data processing, analysis, and monitoring services for hospitals and other

medical institutions, helping them create automated workflows and improve organizational management. Moreover, with the support of the medical insurance business of Ping An Group, a giant in China's insurance industry, Ping An Hao Doctor has an advantage in the collection of customer information about diseases. Hence, the online consultation business of Ping An Hao Doctor developed smoothly. However, the strength of some smaller enterprises can also not be ignored. For example, D Nurse is bringing IoT technology to diabetics, using a real-time wearable device to measure the patient's glycemic index and record their health status, and then sending that information to the patient's phone and the doctor's device so that patients can check their health status at any time. At the same time, doctors use the data to judge whether patients need to change treatment plans and give health advice to patients at any time.

At the same time, Ali-Health is facing competitive pressure from both domestic enterprises and multinational companies or groups. For example, Johnson & Johnson, which specializes in pharmaceuticals, has also entered internet healthcare. Qun, Chairman of China and Senior Vice President of Johnson & Johnson, said in an interview on October 12, 2020, "Because of the new opportunities brought by the COVID-19 epidemic, in addition to the original business model, our pharmaceutical business is actively expanding to e-hospital (internet hospital) and other modes to provide online consultation and drug prescription services for patients. Johnson & Johnson healthcare is also accelerating the construction of digital diagnosis and treatment, digital professional education, digital surgery, and other aspects, striving to build the Chinese market into a global digital development engine." In addition, Ali-Health faces potential threats, such as Teladoc, the largest online consultation company in the United States, which may expand into China in the future.

### **2.3 Introduction of Ali-Health**

Ali-Health is derived from Alibaba Group, a listed company with a market value of 484.467 billion dollars, one of the largest Internet groups in China (ranked second). Alibaba Group's primary business scope is e-commerce, online payment, online trading, cloud computing

business. In February 2014, Alibaba Group paid \$171 million for a 54.3% stake in CITIC<sup>10</sup> 21st Century Company Limited. The Company name was changed from “CITIC 21st Century Company Limited” to “Alibaba Health Information Technology Limited” (abbreviated as “Ali-Health”). Leveraging Alibaba Group’s strengths in e-commerce, internet finance, logistics, big data, and cloud computing, Ali-Health has built a user-centered medical e-commerce business. From 2014 to the end of 2020, Jack Ma, CEO of Alibaba Group, had invested more than 40 billion yuan (nearly 5.2 billion euros) in the healthcare area to build six service platforms of the central business, including medical e-commerce and online consultation, as well as intelligent medical service system applied to various medical service institutions.

Table 3 shows Alibaba Health’s six business segments and central services in detail.

<b>Business segments of Ali-Health</b>		
<b>Business sector</b>	<b>Main Products</b>	<b>Services</b>
<b>Medical e-commerce platform</b>	<i>T-mall online medicine</i>	Provides channels for consumers to purchase OTC drugs, medical devices, family planning products, contact lenses, branded health products, Traditional Chinese medicine, and other medical products online.
<b>New retail model</b>	<i>(Online to Offline) O2O pioneer alliance</i>	The leading service is that customers order and buy drugs through Ali-Health’s online platform, and chain drugstores check orders and deliver medicines.
<b>Drug traceability</b>	<i>Drug Enquiry Service</i>	Consumers use Ali-Health’s mobile app to scan a drug’s barcode to get specific information about the drug, including the manufacturer, batch, date, and source.
<b>Medical consumption Services</b>	<i>Medical and health services</i>	They are cooperating with different merchants to promote consumer purchases on Ali-Health’s internet platform. Consumers can place an order online and then automatically choose the nearest merchant to make an appointment for customers through the processing of the data service center. When consumers only need to show online orders to the merchant or wait at home for the delivery, they can enjoy the service. The contents purchased include medical cosmetology, oral cavity physical examination, vaccine, pregnancy health care products.
<b>internet medical care</b>	<i>Telemedicine platform &amp; The doctor networks</i>	Patients can search and screen for suitable doctors for online consultation anytime and anywhere (home or workplace) according to their condition needs through the listed doctor information on the Ali-Health platform. Doctors diagnose patients online.

<sup>10</sup> CITIC: China International Trust Investment Corporation

<b>Intelligence medical care</b>	<i>Intelligent recognition ability</i>	The medical data platform built on Ali-Health internet and data technology can help medical institutions establish connections, improve their ample data storage, processing, and analysis capabilities, and help hospitals and doctors improve the quality and efficiency of clinical services and scientific research activities.
	<i>Artificial intelligence open platform</i>	Ali-Health United Medical Health Artificial intelligence (AI) ecological partner is built based on medical artificial intelligence and data intelligence technology. The open platform provides medical AI modeling, training, and open application services. Aiming at the natural clinical scenes of medical institutions, it provides multi-site AI system applications such as intelligent lung, breast X-ray, tumor target delineation, multi-disease medical AI system applications, and AI-assisted diagnosis and decision system application platforms as diabetes medication and cervical cancer screening.

**Table 3** – Business segments of Ali-Health*(Source: Ali-Health's official website)*

Among these businesses, medical e-commerce platform, the new retail model, medical consumption, and internet medical care constitute the primary profit revenue source of Ali-Health at present (accounting for 77.2% of the total revenue, in 2020). Similarly, Jingdong Health and Ping An Good Doctor, which make most of their revenue from drug sales and online medical services, are also doing well among online medical companies. Table 4 compares the three enterprises according to their size, users, revenue, and income ratio.

<b>Comparison of business performance of three internet healthcare companies</b>			
	<b>Ali-Health</b>	<b>Ping An Good Doctor</b>	<b>Jingdong Health</b>
Industry status:	China's largest internet medical company by market capitalization.  Market capitalization of Ali-Health is HK \$198,819 billion	The mobile health application with the largest coverage in China (coverage rate: 64.6%).	China's largest online retail pharmacy.
Number of active users:	190 million	67.3 million	72.5 million
Merchandise sales revenue:	7.66 billion yuan	2.9 billion yuan	9.43 billion yuan
Ratio of revenue from total products sold (100%):	79.8%	57.3%	87.0%
Service Revenue:	1.94 billion yuan	2.16 billion yuan	1.41 billion yuan



Proportion of revenue from services provided (100%):	20.2%	42.7%	13.0%
<i>Source from:</i> <i>Ali-Health 2020 Annual Report</i> <i>Ping An Good Doctor 2019 Annual Report</i> <i>Jingdong Health Prospectus, Essence Securities Research Center</i>			

**Table 4** – Comparison of business performance of Ali-Health, Ping An Good Doctor and Jingdong Health

This means that the services and products provided by Ali-Health are not unique and irreplaceable in the internet medical market. Although Ali-Health has the most significant number of users, its product sales and medical services performance is not the brightest. Jingdong Health performed better in drug sales of the three companies, and Ping An Good Doctor earns the most from medical services.

### 2.3.1 Development of Ali-Health

It can be seen from the official website of Alibaba Group that the corporate culture of Ali-Health enables all participants of the Ali-Health business ecosystem (including consumers, merchants, third-party service providers, and others) to enjoy opportunities to grow or benefit from each link of Ali-Health ecological service chain. Ali-Health believes that the success and rapid growth of the company's business depend on the enterprise's respect for entrepreneurship and innovation and consistent focus on meeting customer needs.

In May 2016, Ali-Health and 65 well-known chain drugstores in China established the "China Medical Pioneer Online to Offline (O2O) Alliance", which aims to improve the medical service capability of retail drugstores with mobile internet and data technology, so that both Ali-Health and drugstores can continuously meet the needs of consumers.

In the financial statement of 2017, Ali-Health officially released for the first time the corporate mission of "putting health at your fingertips" and the corporate vision of "making big data powered medical treatment, changing health with the internet" and "providing fair, public, accessible medical and health services for 1 billion people". Under the influence of its new corporate mission and vision, Ali-Health's strategic structure and direction gradually changed from drug sales to creating medical services.

In December 2018, Ali-Health cooperated with Nan Fang Hospital, a well-known hospital in China, to launch electronic diagnosis and treatment cards, scan and establish files, electronic invoice services, online payments, and other services. In this hospital, patients can pay and make appointments through their mobile phones without waiting in line, which significantly reduces the waiting time of patients for medical treatment, thus alleviating the crowded situation of waiting area in the hospital hall and waiting in line for booking payment and relieving the pressure off staff.

In March 2019, Ali-Health, Alipay, and Wuhan Central Hospital jointly launched China's first "Future hospital." "Future Hospital" can help more residents obtain hospital medical treatment and services and provide long-term rehabilitation services for patients with chronic diseases, with the function of video follow-up visits and home delivery of the medicine supplied by Ali-Health.

On September 1, 2020, Ali-Health, in cooperation with the Chinese Center for Disease Control and Prevention, used the public internet platform to carry out services such as acquired immune deficiency syndrome (AIDS) prevention and control publicity, vaccine information inquiry, and other services. The public internet platform is a good way to improve health awareness and disease awareness of residents.

Ali-Health also operated the Global MediXchange for Combating COVID-19 (GMCC) during the pandemic in 2020. The platform includes four parts: resource sharing, international doctor exchanges, online health consultation for overseas Chinese, and science and technology to help fight the pandemic. The international Doctor Exchange platform supports real-time artificial intelligence (AI) translation in 11 languages, including English, Japanese and Italian, and provides free audio and video teleconference. It also provides practical experience sharing for frontline doctors and nurses worldwide to facilitate their online communication and collaboration. It also provides AI big data and cloud computing capability support for medical research institutions with the help of science and technology to fight COVID-19.

### **2.3.2 Achievements & Future development of Ali-Health**

According to Ali-Health's 2021 financial statement<sup>11</sup>, Ali-Health's medical e-commerce platform has become the medical and health service platform in China with the most abundant medical and health products, the most significant gross merchandise volume (GMV), and a safe and reliable process. The number of annual active consumers on the medical e-commerce platform exceeds 280 million yuan, and the platform serves more than 23,000 merchants.

Ali-Health's new retail service model covers nearly 30 cities in China, including Beijing, Shanghai, Guangzhou, Shenzhen, Hangzhou, Wuhan, Jinan, and Xi'an. Furthermore, Ali-Health has partnered with Alibaba Group to launch one-hour delivery services in more than 300 cities across the country. Users can buy drugs on any Platform of Ali-Health and receive them within an hour, like medical takeout.

As of March 31, 2021, Ali-Health has signed contracts to provide online medical consulting services for nearly 60,000 licensed doctors, licensed pharmacists, and dietitians. Ali-Health has provided more than 180,000 consultation services to patients every day on its internet medical platform.

The coverage rate of Ali-Health's drug traceability service covers 98% of the manufacturers of crucial traceability drug varieties (centralized procurement of samples, blood products, narcotic drugs, psychotropic drugs) and 100% of the vaccine manufacturers. This business helps the government achieve smart regulation of vaccines, opens free access to vaccine information for consumers, and uses technology to support the pharmaceutical industry's advance.

Ali-Health has made strategic investments in consumer healthcare and intelligent healthcare, aiming at more comprehensive and in-depth access to all fields of internet healthcare. In 2019, Ali-Health took a stake in Ikang and Health100, two major medical and physical examination institutions in China, and incorporated physical examination into Ali-Health's consumer medical service sector. Consumers can choose the physical examination service they need on any platform under Ali-Health, and then send the data to the physical

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<sup>11</sup> <https://doc.irasia.com/listco/hk/alihealth/annual/2021/car2021.pdf>.

examination service center to complete the appointment for customers. In 2021, Ali-Health announced its investment in a leading oncology real world big data company from China, LinkDoc, aiming to combine the advantages of both companies to provide accurate and convenient critical disease services for Chinese cancer patients with innovative technologies and improve the level of disease treatment and service.

## **2.4 Problem Review**

This pedagogical case study aims to have an in-depth discussion on Ali-Health based on the development status and trends of the internet medical industry and related contents of strategic management. Therefore, the following assignments are posed:

1. Conduct an internal analysis of Ali-Health based on its resources and capabilities to determine its key sources of competitive advantage (VRIO Model).
2. Evaluate the external macro environment and the industry environment within which Ali-Health operates.
3. Use SWOT analysis to determine possible future development directions for Ali-Health.

## **3. Methodology**

### **3.1 Pedagogical case study**

Case study is a research methodology typically seen in social and life sciences (Roberta & Alison, 2017). It aims at the examination of new phenomena in the process of enterprise development and can also be used to verify existing management theories or develop new management theories. A *pedagogical* case study is a different tool, which emphasizes the application of management theory to management practice and creates a situation for students to try to resolve real management problems. Case studies are application-based teaching tools that create opportunities for students to understand the complexity of communication and empower students to identify problems and solutions in organizational lives (Keyton & Shockley-Zalabak, 2004). According to Clark (2010, p. 68): “A case is a story of professional practice, real or fictional, and it has the usual elements of story: characters, setting, and plot. It

presents a problem that must be solved or an issue that must be addressed, and this is the location of the learning because the problem or issue is complex, reflecting real-world practice.”

Teaching cases are not only “telling stories”, however; but also conveying key knowledge points that need to be mastered in a given course through the narrative form of stories and using fresh themes. In addition, with the development of management practice and theory, new viewpoints can also be reflected in cases (Ziyu & Williams,2020. )

Thus, case study assignments offer unique pedagogical values. In this case, through study of Ali-Health, relevant knowledge points of strategic management are conveyed to students, management-related problems are proposed based on this case, and student’s ability to solve practical problems and apply management knowledge is cultivated.

### **3.1.1 Research problem**

The purpose of this case study is to gain an understanding of the importance of strategic management and its tools for internet healthcare companies. At present, the market competition in different industries is becoming increasingly fierce. Therefore, enterprises have to adapt to the fierce market competition environment by constantly adjusting strategic management methods to overcome their shortcomings. In their development process, enterprises face various pressures: external pressures, such as slow economic development of the country or the rapid development of competitors, for instance; and internal pressures, such as employee requirements in investment failures. Therefore, companies must take appropriate strategic management measures to survive. As one of the leading listed internet medical companies in China, Ali-Health needs to adjust its strategic structure and direction according to the changing market environment and customer needs. Effective strategic management can help Ali-Health to consolidate its market position and maintain high-quality services.

This pedagogical case study’s primary purpose is to better understand the advantages and disadvantages of Ali-Health’s resources and capabilities from applying strategic management tools. Analyze their external macro and industry environment and the threats and opportunities therein.

### **3.1.2 Research questions**

To achieve the desired teaching objectives, this case study focuses on the following specific issues:

- a. What are Ali-Health's internal resources and capabilities?
- b. What are Ali-Health's main sources of competitive advantage?
- c. What are the external conditions that can affect the development of Ali-Health?
- d. What are possible future development directions for Ali-Health?

### **3.1.3 Data Sources**

Data can be divided into primary and secondary data according to the originality of data sources (Hox and Boeije, 2005). Researchers collected primary data through interviews, direct observation, and indirect observation. The researcher will have direct contact with the subject. Secondary data is derived from surveys and scientific experiments conducted by others (e.g., business and government agencies, marketing research firms, computer databases), including literature, archival records, reports, and physical evidence. Researchers often use secondary data without direct contact with study subjects (Hox and Boeije, 2005). Secondary data is the data source of this case study.

In addition, this case study adopts the keyword extraction method (the case study sample mainly determines the keywords that reflect the case study in the title or abstract of the search paper) and searches three keywords in Google Academic: strategy, strategic management, and Internet medical treatment. Then the author read and screened the literatures searched by keywords, and summarized the relevant and practical information of this case in the article. The data on Ali-Health and other companies came from the company's publicly disclosed filings and annual reports. Most of the data on China and other countries come from the National Bureau of Statistics and the public legal provisions of the government. Other supporting data came from analysis reports and statistical results of international or Chinese data institutions.

## **4. Pedagogical Note**

### **4.1 Target audience**

This pedagogical case study is aimed at undergraduate and graduate students from strategy-related fields in business management. This case study is also suitable for professionals who are willing to learn from real cases and use them to learn and solve similar problems, especially those from the internet healthcare industry.

### **4.2 Pedagogical objectives**

This pedagogical case study is a practical tool for studying strategic management in internet medical enterprises. By applying relevant knowledge of strategic management to analyze a representative internet medical enterprise in China, it is aimed that the following three objectives will be accomplished: i) to consolidate the knowledge of the strategic management process, particularly in what pertains to environmental analysis for strategy formulation; ii) to choose appropriate strategic analysis tools to complete the analysis of the enterprise and its environment; iii) to summarize and discuss the importance of strategic management for defining possible future directions.

### **4.3 Literature Review**

#### **4.3.1 The concept of strategy**

Rumelt (2011:91) wrote that three important aspects of strategy include “premeditation, the anticipation of others’ behavior, and the purposeful design of coordinated actions.” He described strategy as solving a design problem, with trade-offs among various elements (e.g., human resources& financial resources) that must be arranged, adjusted, and coordinated, rather than a plan or choice.

In this case study, “strategy” can be defined as tactics, meaning a choice made by an enterprise through its judgment of its resources and capabilities and evaluation of the external environment, which is often future-oriented and used to resist internal pressure and competition

from the external environment. Therefore, in the long run, projects would then belong to a specific strategic program. Thus, in any firm, it should be possible to trace projects back to specific organizational objectives (Edwin, 2018). Meiser (2017) believes that strategy can be defined as a successful theory because strategy can encourage organizations/individuals to think more effectively about how to use resources and capabilities and how proposed actions will be achieved. Developing a coherent strategy plan can give companies a distinct competitive advantage (Davenport, 2018). If an organization has multiple lines of business, a company-level strategy is required. An enterprise's strategy can be understood as an organization's use to define its future possibilities (Guillermo Fuertes et al., 2020). Feldman (2020) believes that the strategic field can solve the core problem of what factors drive enterprises to enjoy sustainable competitive advantages.

The concept of strategy is applied to the healthcare industry in different forms. Mehraeen (2021) points out in his study that internet technology (in this case, the internet of Things) can be used as an effective strategic tool for chronic disease management. Strategic management considers the interdependence and connection between internal and external factors of the enterprise, as well as their possible (favorable/unfavorable) impact on the enterprise (Victor,2019). Therefore, internal and external factors of the enterprise must be analyzed in order to make strategic decisions on the future development of the enterprise (healthcare organization).

#### **4.3.2 The concept of strategic management**

In the field of management, strategic management involves the formulation and implementation of the major goals and initiatives taken by an organization's managers on behalf of stakeholders, based on consideration of resources and an assessment of the internal and external environments in which the organization operates (Nag, Hambrick & Chen, 2007). Strategic management involves an organization's analysis, decisions, and actions to create and maintain a competitive advantage. The strategic management process is a continuous series of analyses and choices that increase the likelihood of an organization choosing a "good strategy," that is, one that



provides a (sustainable) competitive advantage (Gürel & Tat, 2017). In brief, strategic management includes the analysis stage, the selection and evaluation stage, and the control and implementation stage.

Bryson and George (2020) believe that Strategic management can help public organizations and other entities achieve important goals and create public value. Strategic management involves scanning the environment for information, selecting all relevant data, and interpreting it, building a strategic model, and putting it into action (Cray & Mallory, 1998). Strategies are formulated, implemented, and controlled within any organization while external and internal factors are assessed and reassessed. Strategic management process is a dynamic management process of strategic analysis, strategic selection and evaluation and strategic implementation and control, which are interrelated, cyclic and constantly improved (Ferrer,2018). In addition, changes in one stage of the strategic management process will unavoidably affect other stages. After a planned strategy is implemented, it can require modifications as conditions change. Hence, because strategic management steps are so intertwined, authors treat them as a single integrated, ongoing process (Parnell, 2008).

Strategic management is expensive, requires significant resources and investment in market research and other resources, and yet still does not always succeed. To be successful in strategic planning and implementation, organizations should invest in market research and forecasting, adequate budgeting, recruitment, training and motivation of qualified personnel, and a holistic approach in strategy formulation and implementation by bringing everybody in the organization to contribute (Lal Kumar, 2019). Muhammad & Ghulam (2018) analyzed the content of strategic management research during the 15 years from 2001 to 2016 and found that researchers' focus on resource-based theory and firm-level strategy has improved over the past 15 years, while their interest in strategy and executive roles has declined. This means that more and more researchers pay attention to the internal resources and external environment of enterprises, rather than on managers.

#### **4.3.2 The concept of strategic analysis**

To achieve an organization's goals, the strategic factors affecting its performance should be considered. These strategic factors are classified as internal factors, that are under its control, and external factors, that are not under its control (Abdel-Basset, Mohamed & Smarandache, 2018) Successful performance improvement depends on the ability to manage these factors by analyzing environmental factors and establishing and implementing business strategies. The analysis of the two can be used as the basis for enterprise strategic planning, to help enterprises achieve a favorable position. Such a position would enable the company to be competitive and grow the business (Sofyan & Ina ,2015).

*(1) Internal analysis*

According to Moses, Hubeis and Najib (2008), the internal environment usually has a direct and specific impact on the company. Owners/managers of companies should investigate the company to identify internal strategic factors, namely the strengths and weaknesses, that will determine whether the company can take advantage of existing opportunities while avoiding threats.

Pearce and Richard (2013) note that the analysis of the internal environment of a company includes the analysis of the resources and capabilities and the competencies possessed by the company, as per the Resource-Based View (RBV) of the firm. The resource-based theory is based on two fundamental assumptions regarding firms' resources and capabilities: i) the heterogeneous nature of the resources and capabilities that companies can hold; and ii) the immobility of certain resources and capabilities, which allow the heterogeneity of the different bundles of resources possessed by different companies to have a more enduring character.

It can be said that a company that has valuable resources and capabilities that are rare and difficult to imitate because of the costs involved in developing or obtaining something can obtain a sustainable competitive advantage (Lopes da Costa and António, 2017), so long as the company is organized to exploit those resources. In the RBV approach, the resources owned by a firm are far more critical than the industry structure in obtaining and maintaining competitive advantage (Thompson, Strickland & Gamble, 2010). Considering today's volatile business environment and technological advances, changing industries, and shrinking time horizons for

competitive advantage, Lopes da Costa, Geraldes. R & J. Geraldes (2019) argue that the core of the resource and capability model can only be possessed by a business structure in which the company focuses on a more stable basis to control its resources and capabilities.

Barney and Hesterly (2012) examined the link between firm resources and sustained competitive advantage. According to these authors, four empirical indicators of the potential of firm resources to generate sustained competitive advantage can be value, rarity, inimitability and organization. Firm resources include all assets, the ability to apply resources, organizational processes, firm attributes, information, knowledge, and others (Lopes da Costa, Geraldes. R & J. Geraldes,2019). They are controlled by a firm and enable it to conceive and implement strategies that improve efficiency and effectiveness (Barney,1991). In this case, an internet healthcare company can achieve a competitive advantage if it implements a value-creating strategy that current or potential competitors are not simultaneously implementing. Managers must seek valuable, scarce, and costly to imitate resources from within the enterprise, and then develop and utilize these resources through their organizations (Barney & Herterly,2012). These theories are summarized as the VRIO model.

Using VRIO model is to answer the following four questions when evaluating the competitive significance of an enterprise's resources and capabilities:

1. *Can an enterprise's resources and capabilities add value by developing opportunities and defending against threats?*
2. *How many competitors have acquired these valuable resources and capabilities?*
3. *Compared with enterprises that have acquired resources and capabilities, do enterprises without certain resources and capabilities face cost disadvantages in acquiring them?*
4. *Is the enterprise is organized to develop and utilize its resources and capabilities?*

(2) *External analysis (macro-environment analysis & industry competitive analysis)*

The external environment refers to players and events outside the company that can affect it (Chuck Williams, 2015: 51). The external environment is divided into three main components: general, industrial, and competitive. The general or macro-environment takes a broad perspective of the factors that influence a business strategy and its performance. Evolving

trends in the macro-environment can present significant opportunities and threats to a firm (Jelassi & Martínez-López,2020). PESTEL provides a framework for a comprehensive analysis of the environment in which organizations operate. It is used for strategic planning, marketing planning, new product/service development and research (Vasileva, 2018).

PESTEL reflects six key segments of the general environment: political, economic, social, technological, environmental, and legal (Table 5 “PESTEL”). PESTEL analysis enables opportunities and threats to the business to be identified and can help companies adapt to external changes in a timely manner. The results of PESTEL analysis indicate opportunities and threats, that can then be integrated into a SWOT analysis, as one of the basic tools for defining organizational strategy (Matovic, 2020).

PESTEL analysis	
<i>P (political)</i>	Political factors include elements such as tax policies, changes in trade restrictions and tariffs, and the stability of governments.
<i>E (economic)</i>	Economic factors include elements such as interest rates, inflation rates, gross domestic product, unemployment rates, levels of disposable income, and the general growth or decline of the economy.
<i>S (social)</i>	Social factors include trends in demographics such as population size, age, and ethnic mix, as well as cultural trends such as attitudes and consumer activism.
<i>T(technological)</i>	Technological factors include, for example, changes in the rate of new product development, increases in automation, and advancements in service industry delivery.
<i>E(environmental)</i>	Environmental factors include, for example, natural disasters and weather patterns.
<i>L(legal)</i>	Legal factors include laws involving issues such as employment, health and safety, discrimination, and antitrust.

**Table 5** - PESTEL analysis

(Source: Author – based on the Janice,2014)

Obviously, the advent of the internet has profoundly affected the structure of many industries. Yet there are no general conclusions regarding how the internet affects the structure of different industries; instead, it is necessary to analyze each industry individually (Jelassi & Martínez-López, 2020). In order to study the impact of industry competitors on the performance of individual companies and the overall performance of the industry, enterprises need to analyze

the industry (Aihal, 2017). The industry analysis can be done as per the guidelines in Porter's five forces analysis (Porter 1979). Porter's Five Forces Framework is a method for analysing competition of a business. It draws from industrial organization economics to derive five forces that determine the competitive intensity and, therefore, the attractiveness (or lack thereof) of an industry in terms of its profitability. This includes:

- *Rivalry among existing competitors*: For most industries the intensity of competitive rivalry is the biggest determinant of the attractiveness of the industry. When rivalry among existing competitors is significant, profitability within the industry suffers and organizations may introduce measures such as price discounting, introducing new products, advertising campaigns and service improvements (Porter, 1985).

Potential factors:

(1) Number of competitors: Generally speaking, the more competitors there are in the industry, the fiercer the competition will be.

(2) Quality differences & Switch costs

(3) Other differences: Marketing strategy and pricing.

(4) Firm concentration ratio: In an economic context, concentration ratios are used to quantify market concentration and are based on companies' market shares in a given industry.

- *Threat of new entrants*: New entrants can disrupt established players in a particular market, and directly affect competitive advantages. When the demand is not increasing or decreasing, an additional supply of goods or services will decrease profit margins of the market participants (Bruijl, 2018).

Major sources of entry barriers:

(1) Time and cost of entry: It is rapid for the internet medical industry to write an application focusing on health care but introducing this product to the public is a problem many brands face.

(2) Specialist knowledge & Technology protection

(3) Economies of scale: Internet medical brand giants are spreading the fixed costs over a larger volume of units, thus reducing the cost per unit. This can discourage a new entrant because they

either have to start trading at a smaller volume of units and accept a price disadvantage over larger companies or risk coming into the market on a large scale to displace the existing market leader.

(4) Cost advantages: The internet has influenced this factor dramatically. Websites and apps can be launched cheaply and easily instead of the brick-and-mortar industries of the past.

(5) Barriers to entry: including technology, policy, financial ability, and other factors.

- *Bargaining Power of Suppliers*: The bargaining power of suppliers is also described as the market of inputs. Suppliers of raw materials, components, labor, and services (such as expertise) to the industry can be a source of power over it when there are few substitutes. Suppliers may charge excessively high prices for unique resources, for instance.

Potential factors:

(1) Number of suppliers & Uniqueness of services

(2) Location of supplier: The geographical location of suppliers determines the transportation speed of drugs, so internet medical service enterprises need to have a widely distributed and a large number of drug suppliers/service providers.

(3) Ability to substitute: Here we mainly investigate whether Ali-Health has many merchants to provide services.

(4) Cost of changing: These are well illustrated by structural market characteristics such as supply chain integration but also can be created by firms.

- *The Bargaining Power of Buyers*: The bargaining power of customers is also described as the market of outputs: the ability of customers to put the firm under pressure, which is affected by the customer's sensitivity to price changes. Firms can take measures to reduce buyer power, such as implementing a loyalty program. Buyers' power is high if buyers have many alternatives. It is low if they have few choices. (Porter, 1980). When buyers are powerful, sellers may develop ways (e.g, hunger marketing) where buyers are prepared to pay a premium price for some products (Bruijl, 2018).

Potential factors:

(1) Number of customers & Size of each other

(2) Differences between competitors: Consider the particularity of Ali-Health's services/products compared with other brands.

(3) Price sensitivity: A good's price elasticity of demand is a measure of how sensitive the quantity demanded is to its price. When the price rises, quantity demanded falls for almost any good, but it falls more for some than for others.

(4) Ability to substitute: Consider whether the customer has similar alternatives.

(5) Cost of change: Consider whether it would be expensive for consumers to switch brands and some of the reasons why customers choose other brands (e.g., marketing strategies of other brands, advertising appeal).

- *Threat of Substitute Products and Services*: Substitute goods or services that can be used in place of a company's products or services pose a threat. Companies that produce goods or services for which there are no close substitutes will have more power to increase prices and lock in favorable terms. When close substitutes are available, customers will have the option to forgo buying a company's product, and a company's power can be weakened.

Major sources of substitute goods or services:

(1) Substitute performance: It includes the typed factors (product quality) and intangible factors (customer service experience) of alternative products. Meanwhile, customer loyalty is very worthy of consideration in this sector.

(2) Trend performance: Consider the relative price performance, quantity, availability of alternatives, and whether the existing product/service is easily replaced.

(3) Cost of change: Here it mainly refers to "buyer's switching Cost".

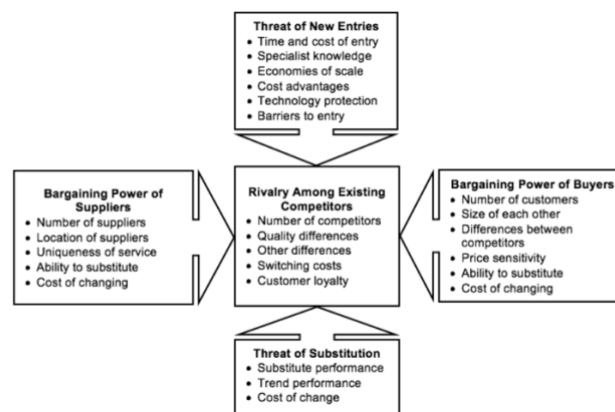


Figure 1 - Porter's Five Forces (Source: Porter,1985, p.22)

(3) External analysis & Internal analysis

SWOT analysis is a simple but effective management tool for assessing an organization’s strategic positioning (Fine, 2019). An effective strategy should start with a SWOT analysis, enabling the organization to build on its strengths and utilize opportunities, while controlling or managing threats and weaknesses (Lal Kumar, 2019). SWOT is an acronym for the term’s strengths, weaknesses, opportunities, and threats.

By using SWOT analysis, an organization can choose one of four strategic plans as follows (Abdel-Basset, Mohamed & Smarandache,2018):

- S-O strategies: The good use of opportunities through existing strengths.
- S-T strategies: The good use of strengths to eliminate or reduce the impact of threats.
- W-O strategies: Overcome weakness to pursue opportunities.
- W-T strategies: Establish ways that the firm can use its strengths to reduce its vulnerability to external threats

Vlados (2019) argues that a traditional SWOT analysis can only produce static, strategic, and superficial descriptive lists of strengths and weaknesses, opportunities, and threats. As such, the author proposed a new SWOT analysis of relevance and evolution based on changes in an organization’s external and internal environment, which means SWOT analysis by finding out the relationship and evolution between the internal environment and external environment changes (Figure 2).



**Figure 2** - Dynamic and evolutionary correlation of the SWOT dimensions

(Source: Vlados, 2019)

All four combined Spaces derived from Vlados’ (2019) analysis are essential:



I. The combination of strong potential opportunities and comparative strengths of the organizations presents the real opportunities. This is the central space of articulating an efficient strategy.

II. The combination of strong potential opportunities and comparative weaknesses is the space of lost opportunities. This is the effort space of the organization to heal its comparative weaknesses so that it can grab opportunities.

III. The combination of strong potential threats and comparative strengths is the space of possible defense. Here the strategic moves try to resist the advent of a possible threat, by recruiting the strong sides and dimensions of the organization.

IV. The combination of strong potential threats and comparative weaknesses presents the real threats. In this area the organization recognizes the challenges to its development and survival, and it must find viable ways of strategic escape.

#### **4.4 Animation plan**

In order to effectively apply this pedagogical case study and achieve the desired outcomes, some guidelines should be considered. This case should be worked in small groups, ranging from three to five students. All students should read the case before its first discussion in the classroom, collecting information about the organization and exploring a set of relevant sources. Similarly, the case questions also need to be prepared before each class, drafting viable analysis tools and gathering further data to solve them. It can be helpful for the groups to gather before classes and discuss opinions, insights, doubts, and approaches to resolution.

In class, students are required to use appropriate concepts and tools to solve problems in a given amount of time to achieve desired goals. At the end of each class, a group is selected to make its overall conclusions public, and all group members can intervene. Other groups are expected to analyze the conclusions and add relevant information critically. The professor is responsible for resolving questions that may arise in solving the case and providing students with a theoretical background so that they can solve cases appropriately. In addition, the

professor should guide the discussion towards the desired teaching goals. Table 6 summarizes a work plan for this case study:

<b>Preparation (should be done before each class)</b>	
Time: According to the students' needs	
Tasks:	<ul style="list-style-type: none"> <li>Individual case reading, and clarification of the problem being addressed.</li> <li>Explore and collect further information about the organization.</li> <li>Gather further insights on the sector that may be relevant to solve the case.</li> <li>Exchange ideas with the group.</li> </ul>
<b>Stage I – Resolution of Question 1</b>	
Time: 90 minutes	
Tasks:	<ul style="list-style-type: none"> <li>• According to the case, the internal resources and capabilities of Ali-Health are listed, and the VRIO model is used to analyze them. Finally, the core competitiveness of Ali-Health is summarized according to the analysis results.</li> <li>• Presentation and discussion of the main conclusions by the students.</li> </ul>
<b>Stage II - Resolution of Question 2</b>	
Time: 90 minutes	
Tasks:	<ul style="list-style-type: none"> <li>• PESTEL model is used to analyze the macro environment of Ali-Health and screen out the favorable conditions and unfavorable conditions for Ali-Health development.</li> <li>• Porter's Five Forces analysis method is used to analyze the attractiveness of the internet medical industry.</li> <li>• Presentation and discussion of the main conclusions by the students.</li> </ul>
<b>Stage III - Resolution of Question 3</b>	
Time: 90 minutes	
Tasks:	<ul style="list-style-type: none"> <li>• According to the "results" of the discussions in Question 1 and Question 2, the sources of Ali-Health's competitiveness, the favorable/unfavorable conditions of the external environment, and the advantages and disadvantages of the industry are compiled. On this basis, the SWOT analysis method is used to analyze Ali-Health and discuss potential future development directions for Ali-Health and put forward feasible suggestions.</li> <li>• Presentation and discussion of the main conclusions by the students.</li> </ul>
<b>Stage IV – Consolidation</b>	
Time: 90 minutes	
Tasks:	<ul style="list-style-type: none"> <li>Consolidation and wrap up of the questions developed during the previous classes:</li> <li>• The students should deliver a written case resolution.</li> <li>• The professor should present the resolution slides, highlighting the analysis made and all the relevant conclusions/learnings</li> </ul>

**Table 6** -Work plan for the resolution of case study (Source: Author)

## 4.4 Case resolution

### 4.4.1 Question 1 Assess Ali-Health's resources and capabilities.

Resources are all the tangible and intangible assets of a firm that can be used in the value creation process (Jelassi & Martinez-lopez,2020). Ali-Health is a company providing Medical

Services based on the internet, and its assets mainly include intangible assets, as is the case with other service providers. As described in the case, Ali-Health's resources mainly focus on three aspects: brand, capital, and technology. These three resources rely on the natural advantages of the parent company, Alibaba Group, a Chinese internet giant.

Capabilities represent the ability of a firm to use resources efficiently and effectively (Jelassi & Martinez-lopez,2020). By combining the above three resources, Ali-Health has developed five significant capabilities: brand influence, financial capability, broad business scope, innovation capability, and service capability. The VRIO Framework (Barney, 1991) can be used to determine whether the five resource capabilities provide Ali-Health with (sustained) competitive advantage:

*Strong brand influence:*

Is it valuable? (Yes)

A strong brand influence is essential for internet medical service companies to expand their business scope gradually. Market influence can help Ali-Health attract more consumers to buy medicines and online medical services and attract other players in the medical industry(hospitals/pharmacies/suppliers) to cooperate with it.

Is it rare? (Yes)

Although there are many internet-medical enterprises in China, among companies of the same type with similar size and volume, only Jingdong Health and Ping An Doctor have strong brand influence like Ali-Health. In addition, among the three enterprises Ali-Health has the most significant number of users, which suggests that Ali-Health has a more robust brand appeal.

Is it hard to imitate? (Yes)

Brand influence cannot be acquired overnight but is gradually accumulated by enterprises' customer participation and service quality (Prentice, Wang & Loureiro, 2019). Ali-Health's brand influence has been gradually accumulated since its establishment in 2014 by continuously providing customers with high-quality internet medical services. Without the development of time and high-quality services, it is difficult for other internet medical companies to have such a strong brand influence.

Is the organization organized around it? (Yes)

Ali-Health's financial statements show that Ali-Health has formed service alliances with 65 well-known pharmacy chains in China. The new patterns of retail services covering 30 cities and 300 cities can enjoy quick delivery service. In addition, the internet medical service platform has attracted nearly 60,000 healthcare professionals to provide online consultation services to patients. Ali-Health's extensive service coverage and sufficient medical staff guarantee the business development of Ali-Health, which can attract more and more consumers to choose Ali-Health for medical services, thus expanding the brand influence and enhancing brand recognition.

*Strong financial ability:*

Is it valuable? (Yes)

Its solid financial capacity can help Ali-Health develop its business sectors, such as acquiring other companies in the form of investment. Financial ability also helps Ali-Health achieve technological innovation, such as investing in the development of artificial intelligence.

Is it rare? (No)

Other enterprises can also obtain financing through various means, such as banks or other investors.

*Broad business scope:*

Is it valuable? (Yes)

Ali-Health currently has six business segments, including intelligence medical care, and drug traceability. Although medical e-commerce and online consultations are now the primary sources of profit, other business segments still positively impact the development of Ali-Health. For example, drug traceability can promote drug quality and safety management in China. This service helps consumers check the source of medicines and helps drug managers (drug manufacturers/distributors/users) to monitor the quality, source, and flow of medicines.

Is it rare? (Yes)

Ali-Health is one of the few companies that put the internet business into every field of the medical industry.

Is hard to imitate? (Yes)

Developing these sectors requires some unique advantages. For example, extensive data analysis technology and various internet platforms, Ali-Health's data source and data analysis technology are all from Alibaba Group and use internet platforms to carry out various businesses. Other Internet medical service companies need to spend more time and money to attract customers to their platforms to accumulate data to help them complete analysis and processing, and then develop new products to compete with Ali-Health according to customer needs is a very long and expensive process.

Is organization organized around? (No)

According to its 2020 annual report, Ali-Health has a market capitalization of HK \$198,819 billion. Its annual revenue is 9.6 billion yuan, equivalent to about 1.26 billion euros. However, the revenue mainly comes from medical e-commerce and online consultations (accounting of 99%), while the other four businesses have no outstanding revenue performance. Therefore, it can be considered that Ali-Health has not fully allocated resources to achieve balanced and comprehensive profitability in all departments.

*Convenient and fast internet medical service mode:*

Is it valuable? (Yes)

Ali-Health provides consumers with convenient online drug purchase and consultation services, which is the core competitiveness of Ali-Health.

Is it rare? (No)

Convenient and fast contactless service is a common feature of all internet enterprises and is not unique to internet medical companies, let alone Ali-Health. The differences between the services provided by these internet medical enterprises mainly lie in the size of the service area and the degree of subdivision of the service field.

*Innovation ability:*

Is it valuable? (Yes)

The ability to innovate has brought Ali-Health new products and services, allowing it to expand its brand influence and attract more users in the medical field. For example, Ali-Health applied

artificial intelligence technology to physical hospitals, developed the “future hospital” service model, which reduces the heavy workload of medical workers and improves the service capacity of physical hospitals.

Is rare? (Yes)

Other companies either optimize and upgrade in a specific segment, such as a drug purchase platform, or complete service upgrades within a particular disease area (such as diabetes). Few enterprises can cooperate with hospitals, governments, and other institutions to upgrade the entire medical service industry chain like Ali-Health has.

Is it hard to imitate? (Yes)

Data-based human capital management is both costly and difficult to imitate, at least for the near future. Companies must build the software and invest in training their HR staff on the new technology and strategy.

Is the organization organized around it? (Yes)

Ali-Health has achieved strong financial support and high brand recognition by maintaining good communication with customers, understanding customer needs, and continuously innovating to meet them. At the same time, internet technology is constantly innovating to meet consumers’ demand for medical services and create new service models for consumers.

Through VRIO analysis, it can be found that brand influence and innovation ability are the core sources of competitive advantages for competitiveness of Ali-Health, which can help Ali Health obtain a more sustainable competitive advantage. Table 7 shows Ali-Health’s VRIO analysis results.

Ali-Health’s VRIO framework outcomes					
Resource/Capability	(V) Valuable	(R) Rare	(I) Inimitable	(O) Organized	
<i>Convenient and fast internet medical service mode</i>	Yes	No	-	-	<b>Competitive parity</b>
<i>Strong financial ability</i>	Yes	No	-	-	<b>Competitive parity</b>
<i>Broad business scope</i>	Yes	Yes	Yes	No	<b>Unused competitive advantage</b>
<i>Strong brand influence</i>	Yes	Yes	Yes	Yes	<b>Sustainable competitive advantage</b>

<i>Innovation ability</i>	Yes	Yes	Yes	Yes	<b>Sustainable competitive advantage</b>
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**Table 7** - Ali-Health's VRIO analysis outcomes (*Source: Author*)

#### **4.4.2 Question 2 Assess the Ali-Health's macro environment and industry competition.**

PESTELE is a framework or tool used by marketers to analyze and monitor the macro-environmental (external marketing environment) factors that have an impact on an organization. The result of which is used to identify threats and weaknesses which are used in a SWOT analysis. This concept is used as a tool by organizations to keep a track of the external factors impacting the organization (Matovic, 2020). PESTLE is a mnemonic which in its expanded form denotes P for Political, E for Economic, S for Social, T for Technological, L for Legal, and E for Environmental.

##### *Political factors:*

Ali-Health's development is inseparable from China's stable political environment. In 2014, China released plans and opinions on promoting the development of "internet plus medical and health", which regarded internet medical care as an effective way to develop China's medical services. The government has given a 10% tax cut to innovative high-tech companies, including Ali-Health. In addition, to prevent and control the epidemic, in February 2020 the Health Commission of China encouraged doctors to provide high-quality and convenient diagnosis and consultation services to residents through the internet.

##### *Economic factors:*

In 2019, China's GDP was 98,651.5 trillion yuan (about 129,805 euros), up 6 percent from the previous year. The situation changed in 2020 when the global economic growth slowed down or retreated due to the impact of COVID-19. Although China's strict anti-epidemic policies played a good role, statistically speaking, China's GDP only increased by 2.3% compared with that of 2019. From 2015 to 2019, China's unemployment rate dropped from 4.1% to 3.5%, according to CEIC Data. In addition, the steady economic growth has led to the improvement of people's living standards and the increasing use of internet devices (smart phones, and computers). As of December 2020, the number of internet users in China had reached 989

million, and an increasing number of people were accessing health knowledge and services through the internet, which has now become a part of Chinese people's life. As a result, residents' health needs are no longer limited to seeing doctors and buying medicine, and consumers can have more money to shift their attention to beauty, health care, and elderly care services.

*Social factors:*

In China, the proportion of people over 65 years old in the total population was 13.5% (in 2020), and the proportion of chronic diseases was 20 percent (in 2018). The care of the elderly population and chronic disease management of patients with chronic diseases is a long-term process that requires supervision and repeated visits. The traditional medical service model requires patients to go to the hospital, buy medicines and actively check their health status. However, the emergence of the internet medical service model has changed this situation. Patients only need to go online to check and buy medicines, and the health data detected through the medical internet of Things will be sent to the mobile app to monitor their physical condition at any time. In addition, COVID-19 has also provided new opportunities for the development of online healthcare. Many countries, including China, have introduced home quarantine policies for residents and offer consumers contactless services through online consultations and drug purchases. In addition, Chinese consumers' demand for epidemic prevention materials (such as masks, alcohol) has increased during the pandemic, and medical e-commerce platforms such as Ali-Health have become consumers' priority.

*Technological factors:*

As an enterprise developing in the medical industry by internet technology, internet technology is crucial to the development of Ali-Health. Innovations in internet technology (such as data processing capabilities, software updates, and mobile applications) can provide new channels and methods for Ali-Health to promote its business segment. For example, the latest medical information software can help Ali-Health analyze patients' medical data and conduct disease assessments.

*Environment factors:*



On the one hand, the internet medical service realizes the contactless service. Patients/consumers only need to complete their medical services online, saving transportation to hospitals/pharmacies and reducing carbon emissions. In addition, internet medical services can issue electronic appointment forms, medical information, prescriptions for patients, and even use quick response codes to query all information about patients on mobile phones without any paper data, which is of great significance for protecting trees. On the other hand, internet medical service companies need to keep their servers cool to ensure the regular operation of all their businesses. For example, Microsoft sank its computer servers into the ocean floor off California in 2014, and Huawei built a big data center in Guizhou, a karst region in China with an average annual temperature of 25 degrees Celsius. Natural disasters (such as floods and hurricanes) caused by the impact of climate change on the environment (such as global warming) and which are becoming more frequent, can be fatal blows to internet companies. Damages to data processing centers will bring high maintenance and reconstruction costs and server business breakdowns.

*Legal factors:*

The introduction of relevant laws on online drug purchases and the impact of government regulations on online medical diagnosis and treatment can significantly ensure the safety of consumers' drug purchases and the reliability of consulting services. Their doubts about online medical consultation and purchase are alleviated. In addition, Ali-Health also has a drug traceability business so that consumers can check the source of drugs and feel more assured to purchase. Therefore, for Ali-Health, the emergence of regulations is conducive to attracting more consumers.

The external environmental factors of Ali-Health are classified and summarized by the PESTEL model (Table 8) to make the macro factors of the enterprise clearer.

PESTEL analysis of Ali-Health	
<i>P (political)</i>	<ol style="list-style-type: none"> <li>1. The government reduces taxes by 10% for innovative high-tech enterprises (include Ali-Health).</li> <li>2. China released “internet Plus Medical and Health” to promote the development of internet healthcare (2014)</li> <li>3. The health commission encourages online consultations during the epidemic (2020)</li> </ol>

<i>E (economic)</i>	<ol style="list-style-type: none"> <li>1. China's GDP will grow steadily by 6% in 2019 and 2.3% in 2020.</li> <li>2. The unemployment rate fell from 4.1% to 3.5% (2015-2019).</li> <li>3.989 million internet Users (2020).</li> </ol>
<i>S (social)</i>	<ol style="list-style-type: none"> <li>1. Large population base (1.41 billion in 2021)</li> <li>2. Population aging: 13.5% of the population aged over 65 (2020).</li> <li>3. High number of chronic diseases: 20% of the population (2018).</li> <li>4. The improvement of residents' health awareness and the transformation of health service demand.</li> <li>5. The popularity of e-commerce.</li> </ol>
<i>T(technological)</i>	<ol style="list-style-type: none"> <li>1.The spread of the internet of Things technology</li> <li>2.The popularity of smartphones</li> <li>3.Mobile app development</li> </ol>
<i>E(environmental)</i>	<ol style="list-style-type: none"> <li>1. Online consultation can reduce carbon emissions and save paper, which is conducive to protecting the environment.</li> <li>2. Environmental changes affect the operation and development of internet enterprises. Global warming and natural disasters, for example, have forced internet companies to find new ways to cool and protect data servers.</li> </ol>
<i>L(legal)</i>	<ol style="list-style-type: none"> <li>1.Promulgation of relevant laws and regulations to regulate internet medical treatment.</li> <li>2.The new drug law allows third-party platforms such as Ali-Health to conduct business online.</li> </ol>

**Table 8** - PEST Analysis of Ali-Health (*Source: Author*)

Porter's five forces help to identify where power lies in a business situation. This is useful both in understanding the strength of the Ali-Health's current competitive position, and the strength of a position that an organization may look to move into. Porter's five forces include three forces from "horizontal" competition: the threat of substitute products or services, established rivals, the threat of new entrants, and two others from "vertical" competition: the bargaining power of suppliers bargaining power of customers.

- *Bargaining power of customers*

1.Number of customers: In 2021, Ali-Health's e-commerce platform have more than 280 million active consumers and more than 23,000 merchants serving the platform. On the Internet medical platform, Ali-Health provides more than 180,000 consultations per day. This means that Ali-Health no longer needs to accumulate customers to complete the original data accumulation and operation, so the bargaining power of a single buyer for Ali-Health is weak.

2. Differential advantage (uniqueness) of industry products: Unlike other brands, Ali-Health provides a wide range of services and a wide variety of services. Customers can finish all kinds of medical services in the exact platform needs (for example: buy medicines, interrogation,

appointments, health care services, slow disease management). Based on this advantage, the customer for Ali-Health bargaining power is weak.

3. Consumer price sensitivity: On the one hand, discuss the price sensitivity of Ali-Health's consumers regarding drugs/medicine-related products. The incentive to bargain is low for some infrequent and urgent medicines, such as vaccines for young children. On the other hand, from the online consultation service provided by Ali-Health, all the services and commodities are self-selected by customers so that consumers will be in weak bargaining power.

4. Buyers' ability to obtain information: Information dissemination on the internet era is speedy and convenient, and consumers can get the information they want in various ways. For example, consumers want to buy a particular brand of health products or make an appointment visits service. He/she will choose to search different platforms which offer that, and then through compared the price, service, quality, brand, and so on the many kinds of factors finally consider complete purchase/reservation. Since buyers can easily find the next alternative, Ali-Health needs to adopt more marketing strategies and strategic measures to cultivate customer loyalty, so buyers have higher bargaining power.

5. Cost of change: The Internet has broken down many trade barriers and made it easy for consumers to access different online healthcare brands without any switching costs.

Considering the above five factors, Ali-Health's bargaining power is medium.

- *Bargaining power of suppliers*

1. Number of suppliers: In Ali-Health's service model, the primary supply sources are drug manufacturers, logistics transporters, and doctors/hospitals. Ali-Health has 65 pharmacy partners, nearly 60,000 licensed doctor's online services, and 1200 express delivery companies in China. Ali-Health can select and switch among these suppliers based on guaranteeing product quality and service, so Ali-Health has a bargaining advantage in terms of the number of suppliers.

2. Uniqueness of services: Ali-Health is a big customer of pharmacies/pharmaceutical manufacturers, doctors 'online visits, and express companies' orders, so these suppliers will not

want to lose this part of the business. This has strengthened Ali-Health's position in negotiations with suppliers and, in turn, weakened theirs.

3. Ability to substitute: Ali-Health's relatively low switching costs from one supplier to another are not a significant hurdle. However, it is worth noting that the suppliers of some patented drugs and scarce drugs have high bargaining power for Ali-Health, but in general, the number of people who need these drugs is relatively small. Therefore, despite the possibility of such a situation, the overall bargaining power of suppliers is still weak.

4. Vertical integration of suppliers: low. Whether it is medicine, logistics, or medical service providers, vertical integration requires a certain amount of capital, users, and the expansion of channels, so it is complex for them to complete vertical integration without Ali-Health and other internet platforms.

The bargaining power of suppliers is a relatively weak force in the Ali-Health products/services market. Ali-Health has a large number of potential suppliers and sufficient supply, which weakens the bargaining position of suppliers.

- *Threat of new entrants*

1. Time and cost of entry barriers: Given the exploitative nature of the internet market, new competitors can enter the industry very quickly and at a low cost.

2. Economies of scale: Ali-Health has spent 40 billion yuan (nearly 5.2 billion) to expand its healthcare services, forming six service sectors, including internet healthcare. As can be seen, the cost of business investment is very high. However, in the case of fierce competition, especially in the face of many challenges to the survival of enterprises, other brands can take retaliatory measures to squeeze the development space of Ali-Health. Therefore, although Ali-Health has the advantage of the economic scale, the economic scale is not an essential factor in reducing threats.

3. Cost advantages: Flush with cash, Ali-Health has been able to squeeze its margins (e.g., discounts on drug promotions) and expand through advertising to make it harder for new entrants. If Ali-Health can negotiate with hospitals (booking service fees), logistics (drug

delivery), and drug manufacturers (drug prices) for better operation and service conditions, it can reduce its operating and unit costs.

4. Barriers to entry: Technically, the barriers to entry are low, and any business can use the internet to write applications. However, not all companies have been able to scale up in health care. Any new entrant needs to acquire suppliers (e.g., drug manufacturers/logistics/doctors) and accumulate a certain number of customers in a short period to ensure the regular operation of the whole service chain. And more importantly, Ali-Health has high brand recognition and influence, with 190 million active users, an essential asset of Ali-Health. Consumers' consumption habits and Ali-Health's brand recognition can, to some extent, create barriers for new entrants to the Internet.

In general, it is not difficult for an enterprise to enter the internet medical market, and it is a very profitable firm to develop medical services based on the vast number of internet users in China (989 million). Moreover, Ali-Health has the advantages of barriers to entering the industry (earlier, sufficient capital, brand recognition), which are not indestructible and irreplaceable. Therefore, new entrants in the industry threaten Ali-Health's survival and development to a certain extent.

- *Threat of substitutes*

1. Substitute performance:

(1) Better (more efficient) public medical system: This is the common pursuit of the government and internet medical enterprises, but there is no better public medical service system applicable to China at present.

(2) Family doctors: Family doctors can provide efficient, convenient, and all-around medical services to the families they serve. However, with a population of 1.41 billion in China, the existing medical resources and conditions cannot realize the family doctor service model.

2. Trend performance: At present, internet technology has entered the medical industry and developed medical services such as medical internet of Things, online medical treatment, and artificial intelligence diagnosis. Nevertheless, in the future, how the medical industry will change with the development of internet medicine is not entirely predictable.

3. Cost of change: The cost of emerging new products/services to disrupt the existing internet health service model is prohibitive and uncontrollable. This “expensive” is mainly reflected in the emergence of new alternatives not only require time and money support, as Ali-Health has done, investment in the intelligent medical sector in an attempt to find more efficient treatment. The most important thing is to return to the Internet medical industry itself. Its development requires breakthroughs in Internet technology, that is, innovation ability. Innovation ability is the core ability that every enterprise needs and is very precious. Under the influence of these factors, change is tricky and expensive.

Combined with these three factors, the threat of substitutes is relatively tiny for Ali-Health.

- *Competitive rivalry*

1. Number of competitors & Quality differences: There are nearly 9,700 Internet-related medical enterprises in China (2020). Competition is fierce, and there are many participants in all business areas involved in Ali-Health, such as:

Medical e-commerce: Jingdong Health

Internet medical treatment (online consultation): Ping An Good Doctor, Baidu Health

Smart healthcare: Jingdong Health; IFLY TEK

Chronic disease management: D Nurse, Ikang sai

Competition not only comes from existing internet medical enterprises in China but also from some multinational enterprises, such as:

Johnson & Johnson healthcare: Strive to build the Chinese market into a global digital development engine.

Tel Adoc: An online medical consultation enterprise covering 130 countries around the world.

2. Switch costs: One thing that makes the industry so competitive is relatively low switching costs. Consumers can abandon Ali-Health’s online platform and use Jingdong Health’s mobile app or Internet medical pages without a significant investment.

There is a high degree of competition between large companies that directly compete with Ali-Health in Internet healthcare. Companies like Jingdong Health and Johnson & Johnson are developing and marketing their products/services. The threat of market competition is crucial

for Ali-Health, which response primarily by constantly developing new and unique products/services to increase and strengthen its market share position.

According to the above five forces analysis results of Ali-Health, it can be concluded that industry competition and the threat of potential new entrants are the two major market forces affecting the future development of Ali-Health. The threat level of buyer bargaining power is medium, supplier bargaining power, and the threat of buyers choosing alternative products are weak factors in the critical industry strength (Table 9).

Results of Ali-Health's five forces analysis	
Forces	Degree
<i>Bargaining power of customers</i>	Medium
<i>Bargaining power of suppliers</i>	Low
<i>Threat of new entrants</i>	High
<i>Threat of substitutes</i>	Low
<i>Competitive rivalry</i>	High

**Table 9** - Results of Ali-Health's five forces analysis (*Source: Author*)

#### **4.4.3 Question 3 Analyze the interaction between internal and external factors and present the future development direction of Ali-Health.**

SWOT analysis can help Ali-Health identify strengths and weaknesses related to business competition and project planning based on external factor analysis and internal factor analysis. Moreover, a new SWOT analysis mode -- the correlation and dynamic analysis described by Vlados (2019) is applied to Ali-Health. The goal is to identify the "real opportunities" and "real threats" of Ali-Health to provide feasible suggestions for Ali-Health's future development.

- *Strengths*

1. Innovation ability: Ali-Health can constantly develop new service software (e.g., smart medicine & artificial intelligence diagnosis) and service models (e.g., "Future hospital") based on internet technology.

2. Strong brand influence: As a member of Alibaba Group, a well-known enterprise in China, Ali-Health has natural advantages in big data, user information, and technology. Combined

with the medical industry, Ali-Health enables the internet to penetrate all aspects of the health field to form its unique brand image.

3. Large number of users: Ali-Health has 190 million active users, more than double its biggest competitor, Jingdong Health (72.5 million). Ali-Health has the most significant number of active users among Chinese internet healthcare companies.

4. Sufficient capital source: Alibaba Group has invested 40 billion yuan (nearly 5.2 billion euros) in Ali-Health for business development.

- *Weaknesses:*

1. Low customer conversion rate: Table 4 shows that although Ali-Health has the most significant number of active users (190 million) among Jingdong Health and Ping An Good Doctor, the online drug sales volume of Ali-Health (7.66 billion yuan) is lower than that of Jingdong Health (9.43 billion yuan), which has only half of the users, and the revenue of online medical services is also lower than that of Ping An Good Doctor. This is reflected in the low unit price of each service/product or the low frequency of users' purchases, which leads to the small profit margin of Ali-Health.; second, the marketing strength and market attraction of Ali-Health are insufficient (for example, drug promotion activities and high-level online medical services).

2. Information security: The internet medical model realizes data sharing and information transmission among patients, doctors, hospitals, and other medical institutions, which brings convenience to participants but also risks. How to effectively protect information security and user privacy under the background of sharing is a common concern of users and directly related to the survival and development of Ali-Health.

- *Opportunities:*

1. Policy support: The government regards internet medical care as an effective way to develop medical services in China and has made some reports to encourage internet medical care development (such as opinions on the development of internet plus medical care).



2. The global outbreak of COVID-19: Countries led by China have adopted a home quarantine policy for residents to combat the epidemic. When people cannot go out, telemedicine service become the first and only choice for most.

3. Steady economic growth: even in 2020, with the impact of COVID-19, China's GDP is still positive development (up 2.3%). Steady economic growth boosts demand and provides opportunities for consumption.

4. The aging population and many chronic diseases: the elderly over 65 years old and patients with chronic diseases need long-term disease management and health maintenance. However, China's existing medical resources and conditions cannot be met in a balanced way. The telemedicine service and medical internet of Things technology provided by Ali-Health can make up for the existing medical shortage, breakthrough geographical limitations, and carry out comprehensive disease management for this population.

5. Increased awareness of environmental protection: internet medical services use electronic devices to store patient's medical information (such as electronic medical records and drug lists), which reduces the use of paper and protects trees. In addition, telemedicine allows patients to complete consultations at home, eliminating the need for transportation to the hospital and reducing greenhouse gas emissions such as carbon dioxide.

6. Continuous improvement of laws: China has promulgated the "Drug Law", "internet Consultation Standards" and other relevant laws and regulations to regulate internet medical services. With the protection of the law, residents will be more assured to buy medicines and complete medical consultations on the internet platform.

• *Threats:*

1. The threat posed by global warming: internet companies rely on big data processing and analysis to survive. Ali-Health needs to predict and resist the threats to its big data centers caused by extreme weather (such as high temperature and floods) brought by global warming to maintain normal business operations.

2. Competition from Domestic internet enterprises: To gain competitive advantages, other internet enterprises (such as Jingdong Health) will likely innovate in various areas (such as

artificial intelligence technology, service content, and marketing), which brings enormous competitive pressure to Ali-Health.

3. Competition from multinational enterprises: the business expansion of some vast multinational enterprises in China will affect the development of Ali-Health. For example, Johnson & Johnson has expanded its business scope into internet healthcare and other large enterprises that may enter China's internet healthcare in the future.

4. Improvement of public medical service system: Not only internet medical service enterprises, but also public medical service institutions (such as hospitals and clinics) are using internet technology to provide more efficient medical services to change the existing medical service model. As an internet medical enterprise, Ali-Health has better advantages on the e-commerce platform, but it cannot be compared with hospitals and other medical institutions in diseases and some medical expertise. Once the public medical service system is sufficiently efficient, the online medical service provided by Ali-Health may face the risk of being eliminated, unless it can keep innovating the ways in which it adds value for customers.

Table 10 briefly summarizes the analysis of the above explanations:

<b>Strengths</b>	<b>Weaknesses</b>
1. Innovation ability 2. Strong brand influence 3. Maximum number of users 4. Adequate funding	1. Low customer conversion rate 2. Talent management 3. Information security
<b>Opportunities</b>	<b>Threats</b>
1. Government policy support for internet medical services. 2. The COVID-19 outbreak shows the convenience of telemedicine and the internet for purchasing medicines. 3. Steady economic growth creates opportunities for consumption. 4. Chronic diseases and the aging population are putting pressure on traditional medical services. 5. Improving residents' awareness of environmental protection. 6. The promulgation of laws such as "Drug Law" and "Rules for internet Diagnosis and Treatment" has improved the credibility of internet medical services.	1. Global warming poses a threat to big data centers. 2. Threats brought by the improvement of competitiveness of domestic competitors. 3. The business expansion of international enterprises affects the healthy development of Ali-Health. 4. Improvement of public medical service system.

**Table 10** - SWOT Analysis (*Source: Author*)

Through the dynamic SWOT analysis, some conclusions about “Real Opportunities” and “Real Threats” can be obtained, including some “directives” on the future of Ali-Health, and suggestions on the future development direction of Ali-Health -are summarized on this basis.

*“Real Opportunities”:*

1. In China, 20% of the population suffers from chronic diseases, and the aging population reaches 13.5%, and both these figures can be expected to increase in the future. The increasing coverage of the chronic disease population and the aging trend will lead to new consumer demands. Innovation ability can help Ali-Health develop new software, equipment, and service models in chronic disease management and geriatric care to meet the needs of these groups.
2. Global warming has brought about a series of changes in the natural ecological environment that affect human life. Both the government and individuals have improved the awareness of environmental protection. Therefore, as an environmentally friendly and economical way to seek medical advice, internet medical treatment can be recognized by consumers.

*“Real threats”*

1. The low customer conversion rate coupled with existing and potential competitors in China’s internet medical industry will limit the development of Ali-Health. Ali-Health’s low customer conversion rate to some extent means that Ali-Health lacks some resources or capabilities (such as marketing capabilities). In addition, on the one hand, Ali-Health has 190 million users, so the cost of user maintenance and data analysis is higher than that of other enterprises (for example, Jingdong Health). On the other hand, Ali-Health may adopt marketing activities to cope with new threats, which increases the expenditure of the enterprise. Although Ali-Health has strong financial support, in the long run, Ali-Health still needs to take strategic measures to improve the customer conversion rate.
2. One of Ali-Health’s necessary resources for innovation is talent. Although the existing talent and management system can ensure the normal development of Ali-Health’s six businesses, in the future, under the pressure of domestic and international competition, all internet medical enterprises may fall into the situation of talent shortage. Therefore, attracting more talents and improving the talent management system will be a demanding challenge for Ali-Health.

Ali-Health's potential future directions based on the SWOT analysis:

1. Pay attention to the particular service needs of the elderly and people with chronic diseases and develop new products/service models with creative ability.
2. Adapt to the change of people's awareness of the environment, actively respond to the call of low carbon life, and call on consumers to choose more environmentally friendly ways of medical treatment.
3. Like most enterprises, Ali-Health should pay attention to the threat brought by environmental changes in the future, mainly affecting the regular operation of data center servers. Therefore, Ali-Health needs to constantly pay attention to the negative impact of environmental warming and take measures (such as physical cooling) to ensure the server's regular operation.
4. In the long run, Ali-Health needs to adopt marketing strategies and strategic measures to cultivate customer loyalty, reduce buyers' bargaining power and improve competitiveness. These strategies may include advertising, community outreach, disease knowledge lectures, product pricing, and service content upgrading.
5. Talent is essential to Ali-Health. Although it is not a significant component of competitiveness in terms of current resources and capabilities, the analysis of the VRIO model only shows Ali-Health's innovation ability. However, any enterprise needs high-tech and knowledge-based talents to promote innovation, which is a force that cannot be ignored. Therefore, improving the talent management system and attracting more talents is an essential strategic measure for Ali-Health in the future.

#### **4.5 Slides for case resolution**

The slides for the resolution of this case study's questions are exhibited on Appendix A.

## **5. Conclusion**

### **5.1 Conclusions and lessons from the case study**

Ali-Health is an internet medical enterprise with a high reputation in China. Since 2014, Ali-Health has developed health businesses and products such as medical e-commerce, online medical care, artificial intelligence diagnosis, and drug traceability. The purpose of this pedagogical case study was to summarize the advantages and disadvantages of Ali-Health through a series of strategic analyses, combined with the current situation and future development trends of internet medical treatment, and provide development direction and feasible suggestions for Ali-Health.

In the preparation stage of the paper, according to the keyword's "strategy", "strategic management", "Internet medical", to retrieve the literature related to the topic of this paper, and then read and screen out helpful information. Then, the VRIO model was used to evaluate the internal resources and capabilities of Ali-Health, and its core sources of competitive advantage -- innovation ability and strong brand influence. Similarly, PESTEL analysis and Five Forces analysis were used to evaluate the macro environment and the internet medical industry attractiveness. The results of the PESTEL analysis show that most factors of the macro-environment (except environmental factors) are favorable to the healthy development of Ali-Health, or there is no particularly significant impact. The results of the five forces analysis show that although Ali-Health has a good market performance at present, in the long run, the fierce competition in the internet medical industry can affect its development. Therefore, Ali-Health needs to integrate its resources and the favorable factors of the external environment to face the increasingly fierce competitive environment.

Finally, combined with internal and external analysis results, a dynamic and related SWOT analysis of Ali-Health was conducted to find out the "real opportunities" and "real threats" of Ali-Health. Ali-Health can find the appropriate development direction and feasible suggestions to enhance the core competitiveness of the enterprise and resist risks. For example, focusing on the development of chronic disease management and elderly health management products and services.

Overall, this pedagogical case study provides students with a case to learn and use strategy-related knowledge and apply it to the internet medical industry. It is worthwhile because this case study describes the current situation and facts of Ali-Health and the internet medical industry, discusses the industry's future trend, and puts forward Ali-Health's strategic development direction. Second, the results of this case study can also be used as a reference for other internet medical enterprises. Other enterprises can discuss the results of this case study to find out the direction and resources suitable for their development.

## **5.2 Limitations of the study**

Through the pedagogical case study and analysis of Ali-Health, this teaching case summarizes the various development factors of Ali-Health and helps highlight the importance of strategic management for internet medical enterprises. However, due to the difficulty of information collection, it is impossible to conduct a comprehensive and detailed evaluation of this case.

Since Ali-Health is a Chinese company, relevant data and materials are based on China's social environment and consumer perspective. For internet health companies in other countries or international health companies, the situation will likely be different. Secondly, the internet medical industry is an emerging industry, and the development situation of each country is different under the influence of macro environments such as technology, policy, and economy. Therefore, the results of this case study have more obvious reference significance for Chinese internet medical enterprises.

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## Appendixes

### Appendix A. – Slides for case resolution



## Question 1

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**Assess Ali-Health's resources and capabilities.**

The importance of strategic management in Ali-Health

**The VRIO Framework**

Ali-Health's VRIO framework					outcomes
Resource/Capability	(V) Valuable	(R) Rare	(I) Inimitable	(O) Organized	
<i>Convenient and fast internet medical service mode</i>	Yes	No	-	-	<b>Competitive parity</b>
<i>Strong financial ability</i>	Yes	No	-	-	<b>Competitive parity</b>
<i>Broad business scope</i>	Yes	Yes	Yes	No	<b>Unused competitive advantage</b>
<i>Strong brand influence</i>	Yes	Yes	Yes	Yes	<b>Sustainable competitive advantage</b>
<i>Innovation ability</i>	Yes	Yes	Yes	Yes	<b>Sustainable competitive advantage</b>

The importance of strategic management in Ali-Health

**Question 2**

**Assess the Ali-Health's macro environment and industry competition.**

**PESTLE analysis**

PESTEL analysis of Ali-Health	
<i>P (political)</i>	1. The government reduces taxes by 10% for innovative high-tech enterprises (include Ali-Health). 2. China released "internet Plus Medical and Health" to promote the development of internet healthcare (2014) 3. The health commission encourages online consultations during the epidemic (2020)
<i>E (economic)</i>	1. China's GDP will grow steadily by 6% in 2019 and 2.3% in 2020. 2. The unemployment rate fell from 4.1% to 3.5% (2015-2019). 3.989 million internet Users (2020).
<i>S (social)</i>	1. Large population base (1.41 billion in 2021) 2. Population aging: 13.5% of the population aged over 65 (2020). 3. High number of chronic diseases: 20% of the population (2018). 4. The improvement of residents' health awareness and the transformation of health service demand. 5. The popularity of e-commerce.
<i>T(technological)</i>	1.The spread of the internet of Things technology 2.The popularity of smartphones 3.Mobile app development
<i>E(environmental)</i>	1. Online consultation can reduce carbon emissions and save paper, which is conducive to protecting the environment. 2. Environmental changes affect the operation and development of internet enterprises. Global warming and natural disasters, for example, have forced internet companies to find new ways to cool and protect data servers.
<i>L(legal)</i>	1.Promulgation of relevant laws and regulations to regulate internet medical treatment. 2.The new drug law allows third-party platforms such as Ali-Health to conduct business online.

The importance of strategic management in Ali-Health

**Five Forces analysis**

Results of Ali-Health's five forces analysis	
Forces	Degree
<i>Bargaining power of customers</i>	Medium
<i>Bargaining power of suppliers</i>	Low
<i>Threat of new entrants</i>	High
<i>Threat of substitutes</i>	Low
<i>Competitive rivalry</i>	High

The importance of strategic management in Ali-Health



## Question 3

**Analyze the interaction between internal and external factors and present the future development direction of Ali-Health.**

The importance of strategic management in Ali-Health

### SWOT analysis

Strengths	Weaknesses
<ol style="list-style-type: none"> <li>1. Innovation ability</li> <li>2. Strong brand influence</li> <li>3. Maximum number of users</li> <li>4. Adequate funding</li> </ol>	<ol style="list-style-type: none"> <li>1. Low customer conversion rate</li> <li>2. Talent management</li> <li>3. Information security</li> </ol>
Opportunities	Threats
<ol style="list-style-type: none"> <li>1. Government policy support for internet medical services.</li> <li>2. The COVID-19 outbreak shows the convenience of <u>telemedicine</u> and the internet for purchasing medicines.</li> <li>3. Steady economic growth creates opportunities for consumption.</li> <li>4. Chronic diseases and the aging population are putting pressure on traditional medical services.</li> <li>5. Improving residents' awareness of environmental protection.</li> <li>6. The promulgation of laws such as "Drug Law" and "Rules for internet Diagnosis and Treatment" has improved the credibility of internet medical services.</li> </ol>	<ol style="list-style-type: none"> <li>1. Global warming poses a threat to big data centers.</li> <li>2. Threats brought by the improvement of competitiveness of domestic competitors.</li> <li>3. The business expansion of international enterprises affects the healthy development of Ali-Health.</li> <li>4. Improvement of public medical service system.</li> </ol>

The importance of strategic management in Ali-Health

Ali-Health's potential future directions based on the SWOT analysis:

1. Pay attention to the particular service needs of the elderly and people with chronic diseases and develop new products/service models with creative ability.
2. Adapt to the change of people' s awareness of the environment, actively respond to the call of low carbon life, and call on consumers to choose more environmentally friendly ways of medical treatment.
3. Like most enterprises, Ali-Health should pay attention to the threat brought by environmental changes in the future, mainly affecting the regular operation of data center servers. Therefore, Ali-Health needs to constantly pay attention to the negative impact of environmental warming and take measures (such as physical cooling) to ensure the server' s regular operation.
4. In the long run, Ali-Health needs to adopt marketing strategies and strategic measures to cultivate customer loyalty, reduce buyers' bargaining power and improve competitiveness. These strategies may include advertising, community outreach, disease knowledge lectures, product pricing, and service content upgrading.
5. Talent is essential to Ali-Health. Although it is not a significant component of competitiveness in terms of current resources and capabilities, the analysis of the VRIO model only shows Ali-Health' s innovation ability. However, any enterprise needs high-tech and knowledge-based talents to promote innovation, which is a force that cannot be ignored. Therefore, improving the talent management system and attracting more talents is an essential strategic measure for Ali-Health in the future.

The importance of strategic management in Ali-Health