

Analysis and Thinking on the Business Models of the Three Major Companies

- Based on the Business Model Canvas

Jie Chen

School of Shanghai Normal University, Shanghai 200030, China

Abstract

With the rapid development of network technology and the rapid update and iteration of various electronic products, my country has become the world's largest smartphone consumer market. Based on the business model canvas, this article compares and analyzes the business models of Apple, which is the leader, Huawei, which ranks first in China's top 500 private enterprises, and Xiaomi, which has emerged as a new force, in order to provide ideas for the development of similar enterprises.

Keywords

Business Model; Business Model Canvas; Apple; Huawei; Xiaomi.

1. Introduction

With the maturity of Internet technology and the continuous development of science and technology, different brands of electronic products with their own characteristics appear in the market, such as Apple, Huawei, Xiaomi, oppo, vivo, Samsung, OnePlus, Meizu and other brands, and the competition is increasingly fierce. If you want to gain a firm foothold in many enterprises and become a leader in the market, you must have your own unique business model. This article first briefly summarizes the concept of "business model", and then interprets the "business model canvas", then analyzes the business models of Apple, Huawei, and Xiaomi, and finally analyzes and summarizes and puts forward suggestions..

2. Literature Review

2.1. Business Model

Bellman et al. (1957) first proposed the term Business Model in an academic article in Operation Research, but did not give a specific meaning [1]. The business model itself is not a technique to completely guide and help managers run a business well and help them form a sustainable competitive advantage, but it is a picture of how the development elements of a company should develop at a particular moment. The business model reveals how the various parts of an enterprise's business work together [2], and explains how the enterprise organizes and operates its internal resources and capabilities to create and transmit value and realize the process of making profits.

Experts and scholars in various fields at home and abroad have made various interpretations of business models from different research perspectives. Osterwalder (2001) [3] believes that the business model is mainly composed of nine elements with cost, processing and profit as the main line. These include the value proposition of value creation, delivery and acquisition, the channels for connecting target users, and how to establish and maintain customer relationships to achieve profitability models. Wei Wei, Zhu Wuxiang, and Lin Guiping (2012) [4] defined a business model as "the transaction structure of stakeholders". It is believed that the business model includes: transaction subject (who is involved), transaction content (what to trade),

transaction method (how to trade), transaction pricing (revenue and expenditure) Adam J. Bock and Gerard George (2020) believe that a good business model is " It needs to meet customer needs, create value for the company and partners, utilize and expand valuable resources, improve efficiency, make the company stand out, and be sustainable in the short term." One is to create value for the organization; the other is to make the organization take full advantage of opportunities.

In general, a business model should have the following characteristics: First, a business model can generate profits for the enterprise over a period of time, and it is the basis of a profit model and a way to maintain itself financially. Secondly, the business model does not refer to a certain department or a certain activity, but an ecosystem formed by the enterprise that integrates all relevant elements, complements each other, and functions together. Finally, the business model is not static. The business model should be combined with the development of the dynamic capabilities of the enterprise to promote the innovation of information technology, thereby affecting the business execution process of the business model, and realizing the innovation of product technology as the main line, from strategy to dynamic capabilities, and then to business model innovation delivery process.

2.2. Business Model Canvas Theory

According to the definition of business model by famous scholars Osterwalder and Yves Pigneur (2001) [5], a business model is mainly composed of nine elements with four pillars: Product or Service, Customer, Finance, and Asset Management. Product or Service cover value proposition; Customer cover customer relationship, channels and customer segments; Finance cover cost structure and revenue stream; and asset management interfaces cover key activities, key resources. As shown below:

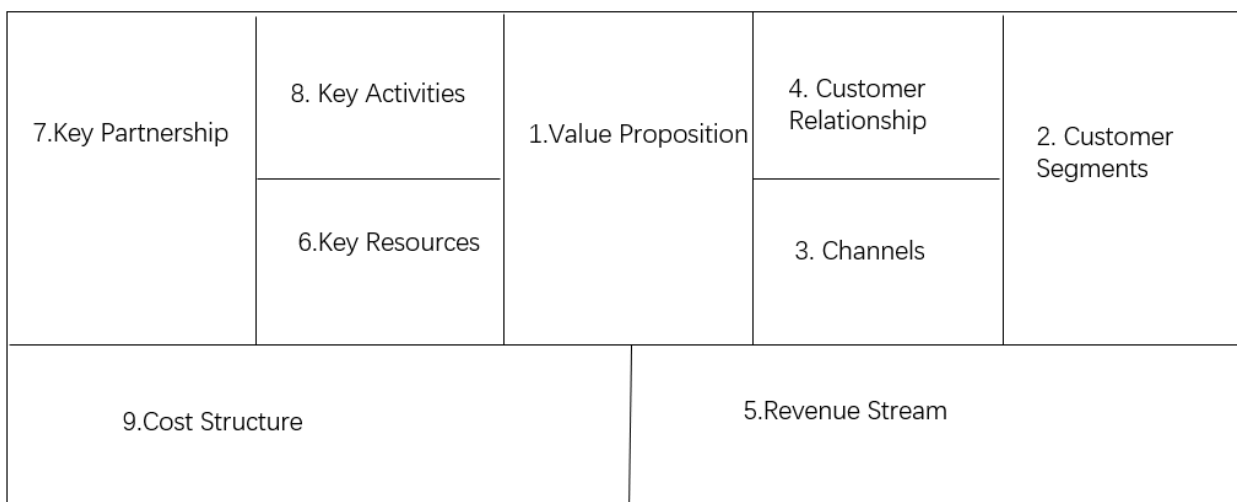


Figure 1. Business model theoretical canvas

These nine elements make up the enterprise business model canvas. This article briefly describes these nine elements, each with a different focus, which together form the business model canvas.

2.2.1. Product or Service

Value Proposition is that a company solves or satisfies a customer's problem or need by producing a product or service, with the focus on solving the customer's needs.

2.2.2. Customer

Customer Segments indicate which groups of people or users are the groups that the company wants to strive for, and they are willing to generate potential payment behaviors for a certain service provided by the company. The company can be divided according to gender, work, income, etc.; Channels are in the context of the information age, which is manifested in connecting enterprises and target users, and delivering information services to the electronic devices of target users. Distribution channels are a kind of connection relationship, connecting enterprises and customers. ; Customer Relationship is the soft power of an enterprise, which explains how to continuously acquire customers, how to keep customers, achieve customer retention, and how to increase customers to achieve customer communication and new customers.

2.2.3. Finance

Revenue Stream refers to how the business makes money from target users; Cost Structure refers to the direct materials, fuel and power, direct labor and manufacturing costs for providing products or services.

2.2.4. Asset Management

Key Resources are the most important sources to help companies obtain core competitive advantages, such as physical entities, human resources, intellectual and financial-related resources; Key Partnerships are the process of finding what is needed in the operation of a business model. Key partners and downstream suppliers; Key Activities indicate what is the most important thing in the operation of an enterprise's business model, including producing products or services, solving customer needs and problems, and supply chain management [7].

3. Business Model Analysis

3.1. Apple

3.1.1. Product or Service

Apple has always advocated an innovative, risk-taking value proposition[8]. One of Apple's most important value propositions is Apple's iOS and Mac OS systems. They enable customers to use multiple devices seamlessly through their unique operating systems and software, forming an ecosystem of products including iPhone, iPad, Mac, iWatch, Apple TV, Home Pods and AirPods; There are tons of software and services that are tied to the product, and if you get drawn to one of them, Apple will try to steer you into their ecosystem and spend more money.

3.1.2. Customer

In terms of customer relationship, Apple has built a deep relationship with customers through customer service, extensive marketing, product warranties, and every Apple store has a Genius Bar that provides repair services. Once a customer's iPhone or AirPods is damaged, the staff will replace it with a new one. ; If it is an elderly person who buys it, the staff will teach them how to use it; every time Apple has a new product launch, the videos they post on social media can always give people a wonderful feeling. The software seamlessly uses multiple devices to form an ecosystem of products including iPhone, iPad, Mac, iWatch, Apple TV, Home Pods, and AirPods; at the same time, Apple develops a large number of software associated with products. And services, if you get attracted to one of them, Apple will try to steer you into their ecosystem to spend more money.

In terms of channels, Apple has large-scale retailers or mobile phone retailers in China, mainly Gome and Suning. Apple mainly adopts three marketing strategies: experiential marketing, hunger marketing, and word-of-mouth marketing. The hard-to-find machine has made Apple a big profit; the special Apple experience store across the country is an open shopping

environment where customers can use and experience various Apple products in the experience store. In addition, Apple has its own Unique product value to create a good brand image and improve customer loyalty.

In terms of customer segments, Apple adopts a differentiated marketing strategy, and its products are entertaining, business-oriented and development-oriented; its target customers are mainly young people who pursue fashion, white-collar workers, business people, and IT people. Apple Watch's main target customers are employees in the service industry who can't bring their phones to work. The target group of MacBook is business people, white-collar workers, and technicians who love editing. The design of MacBook is thin and light, and it has unique software like Final Cut Pro, which makes technicians have to buy it. The launch of the Apple Pencil for the iPad opens up the education market and provides convenience for students. , not long ago, the Apple 13 was hard to find, which made Apple make a lot of money; the special Apple experience store across the country is an open shopping environment. Customers can use and experience various Apple products in the experience store. In addition, Apple has its unique product value to create a good brand image and increase customer loyalty.

3.1.3. Finance

Apple implements a value-driven strategy. They advocate high-quality products and pay for technical personnel. Apple has invested a lot of money in innovative products, software, and network platform maintenance, so the cost structure is high.

Apple's revenue stream are product sales, software promotion fees, and subscription fees. Product sales include iPhone, iPad, MacBook, etc.; technology companies must pay Apple a certain promotion fee when they need to launch software to Apple's Apple APP Store; consumers need to pay Apple a certain subscription fee when using some of Apple's software, such as iCloud Storage starts at \$0.99 per month and Apple Music starts at \$9.99.

3.1.4. Asset Management

Apple's key activities lies in the iPhone, innovative research and development, product production and design, software development, platform maintenance and quality control. Apple needs to continue to innovate to meet consumer needs, such as the launch of new Mac and iOS operating systems every year, In addition, Apple attaches great importance to quality control and maintains personal privacy security.

Apple's key resources include intellectual resources, material resources, and human resources. Intellectual resources are software design and product design, and material resources are iPhone, iPad and other products. In terms of human resources, Apple has a large number of programmers, designers, developers and other elites talent.

Verizon and AT&T, the two major mobile communication companies in the United States, are the main sellers of Apple; Foxconn Technology Group has become Apple's main electronic product manufacturer with its low labor and cost; Wintech is Apple's touch screen manufacturer; Toshiba (Toshiba, maker of Apple's LED displays and flash drives; Intel, maker of its microprocessors; Quanta Computer, maker of its iMac and Macbook; Catcher Technology) is the manufacturer of its aluminum casing.

3.2. Huawei

3.2.1. Product or Service

Huawei firmly relies on customers and partners, adheres to the customer as the starting point and center, and creates high-quality products and services to create value for customers. For individual customers, Huawei's products include mobile phones, notebooks, monitors, and tablets. For enterprise customers, business products and services include enterprise networking, data storage, and campus solutions. Provide operator customers such as 5G, fixed network, services and software. Provide cloud service customers with a series of products and

solutions such as cloud computing, cloud storage, and cloud database. Provide a wealth of ICT products and solutions for government and enterprise customers. In 2021, the concept of the Internet of Everything will also be launched, and efforts will be made to build an ecosystem that belongs to Huawei.

3.2.2. Customer

Huawei's customer segments can be classified according to business. For end-consumer customers, in addition to satisfying the low-end consumer mobile phone market, smart terminals and cloud computing technologies have developed rapidly, and mid-to-high-end markets at home and abroad have gradually become target customers. The operator customers are mainly the world's leading operators, and Huawei cooperates with them to develop products and propose solutions. Enterprise-level customers mainly refer to customers who have needs for scenario-based solutions, big data, and cloud computing. Huawei has strengthened cooperation with various industries and governments.

Huawei currently mainly uses O2O sales channels. Online sales channels are mainly e-commerce platforms such as Taobao, JD.com, and Suning; offline sales channels are mainly physical stores such as shopping malls and Huawei-authorized retail stores. Huawei has adopted distribution channels for enterprise business since 2016, and has built a "4+1" cooperation ecosystem, namely smart city cooperation system, cloud ecological cooperation system, distribution cooperation system, solution cooperation system, and preferred partner system, and improve the quality of channel development through collaboration and cooperation. [9]

Huawei's customers can be summarized into four categories: S-level, A-level, B-level, and C-level customer relationships. S-level customer relationships refer to strategic customers, most of whom are operators of operator business and cloud services. They have a strategic alliance relationship with Huawei, and cooperate in the development of solutions, such as China Mobile, China Telecom, etc. The operators are all S-class customers. A-level customers are corporate users who have long-term cooperation and are partner customers. Class B customers are long-term suppliers. C-level customers are consumer users with a simple buying and selling relationship, and the degree of dependence between such customers and Huawei is relatively low. Among these four types of customers, S and A customers are Huawei's key customers.

3.2.3. Finance

R&D costs, selling and administrative expenses account for the majority of Huawei's cost structure. According to the analysis of Huawei's annual report, in the past 10 years, the proportion of Huawei's R&D investment in the total cost has been gradually increasing, remaining between 40% and 56%. [10].

Huawei's revenue and profit sources mainly come from consumer business, operator business, and enterprise business. According to Huawei's 2020 annual report, consumer business revenue was 482,916 million yuan, accounting for 54.2% of total revenue; operator business revenue was 302,621 million yuan, accounting for 34.0% of total revenue. The operator business has always been the core of Huawei's revenue, but since 2018, Huawei's consumer business has surpassed the operator business to become the most profitable segment [10].

3.2.4. Asset Management

Huawei's key businesses can be divided into four major sectors: The first category is operator business, which mainly includes the provision of a series of products, services, and business solutions for wireless networks, fixed networks, cloud and data centers to meet the needs of global telecom operator customers. need. The second category is consumer business. Products under this segment include mobile phones, personal computers and tablet computers, and mobile broadband terminals. The third category is enterprise-level business. Huawei provides products and services related to digital transformation to customers in various industries such

as government and finance, energy, and automobiles. The fourth category is the cloud service business, which mainly includes the provision of cloud computing servers, cloud storage and cloud solutions. Its newly established COULD BU in 2017 is one of the businesses with the strongest growth momentum in the cloud service system.

Huawei's current key resources can be summarized as technical resources and human resources. These two resources play a positive role in driving Huawei's profitability and development. Technical resources refer to the achievements of Huawei's technological R&D innovation. Over the years, Huawei has invested 10% of its sales revenue in research and development every year, resulting in a steady increase in the number of patents, from more than 60,000 in 2016 to more than 100,000 in 2020. More than 90% of for invention patents. These difficult and high-tech patents are the guarantee for the continuous profitability of Huawei's technology-based development. Huawei has strong human resources. Huawei's human resources organization is an "inverted triangle". Among them, R&D personnel account for the largest proportion, more than 50%, and more than 70% of R&D personnel have a master's degree or above. They serve Huawei In the company's research institute or in the national postdoctoral mobile workstation established by Huawei. The high-quality R&D team ensures that Huawei can achieve the connection between technical needs and scientific research, make steady progress in science and technology, and master technical autonomy. Huawei University, known as Huawei's "Whampoa Military Academy", provides many training courses to realize the appreciation of Huawei's human capital. Such a talent training system improves the quality of Huawei's human resources and enables Huawei to develop rapidly.

Huawei strives to achieve a win-win situation with its partners and builds good relationships with partners in various fields. Strategic alliances include sales partners for its products and services, partners for solutions, and suppliers for parts and components for business products. Among the joint ventures and cooperation, one is a HUAWEI CLOUD partner, engaged in HUAWEI CLOUD consulting and technical cooperation in the industry or region, such as Chinasoft International Technology Services Co., Ltd., iSoftStone Information Technology Co., Ltd., etc.; the other is a service partner, referring to It is a partner engaged in engineering delivery and after-sales maintenance of Huawei products and solutions in the industry or region. Training cooperation includes Talent Alliance - ICT Academy and Talent Alliance - HALP to cultivate ICT talents and expand training partners.

3.3. Xiaomi

3.3.1. Product or Service

The value proposition of Xiaomi mobile phones is "born for fever", focusing on high cost performance. Xiaomi adopts the strategy of product differentiation, service differentiation and image differentiation. Product differentiation strategy. Product differentiation is that Xiaomi has its own MIUI system developed based on Android, which is in line with the usage habits of Chinese people. A service differentiation strategy, such as Xiaomi's direct service, the traditional application is to use the app store to complete the download and use. The applet completes the discovery information through WeChat and skips the store and downloads to open and use, while the direct service skips all applications. The link, directly reaching the program page, is the shortest path for users to use the application. The differentiation of Xiaomi's image is that he not only sells mobile phones, but also a series of derivatives, such as Xiaomi accessories and Xiaomi boxes launched by Xiaomi malls; various fun APPs in the Xiaomi community; various cloud services of Xiaomi MUNI. It even includes Xiaomi's memory cards, card readers, mobile phone cases, ornaments, stickers, dolls, clothing, and more. This has created a kind of "one-stop service" image for Xiaomi. [11]

3.3.2. Customer

Xiaomi's customer base is mainly young customers, and customer relationships include ① personal assistant: interaction between people through Xiaomi's official customer service hotline and corporate email; ② automatic service: by setting up customer service robots to provide customers with Self-service solutions; ③ Dedicated personal assistants: provide special service methods for high-value customer groups; ④ Automated services: push services to customers according to their needs through big data; ⑤ Community: use customer communities to establish contacts with potential customer groups, establish Xiaomi community; ⑥ Co-creation: Let customers participate in the development of the Xiaomi ecosystem, and jointly promote and improve the development of Xiaomi.

The main marketing method of Xiaomi is still the network marketing mode. For example, the marketing mode carried out on major software platforms (Taobao, Jingdong, Weibo, etc.) has achieved very good sales performance, accumulating tens of millions of fan users, and greatly improve the brand's popularity and influence.

Xiaomi's customers mainly include (1) the mass market, with high prices and low prices, to meet the needs of most young customers; (2) niche markets, customized for specific needs of the market, mainly in cooperation with China Mobile, China Unicom, and telecom operators; (3) Platform or Market, providing products to third parties or suppliers; ④ Diversified market: Diversifying business operations, selling mobile phone peripheral products to meet the needs of different customers.

3.3.3. Finance

Xiaomi's costs mainly include ① purchase of mobile phone hardware ② maintenance of e-commerce platform ③ advertising and marketing fees ④ MIUI and other software services. Xiaomi's revenue mainly comes from mobile phone hardware manufacturing, IoT and consumer products, and Internet services. [12]

3.3.4. Asset Management

Xiaomi Group is mainly engaged in the research and development and sales of smartphones, IoT and consumer products in China and other countries or regions, the provision of Internet services and the business of holding investment. Its wholly-owned holding companies include 20 subsidiaries including Xiaomi Communication Technology Co., Ltd., Xiaomi Technology, Beijing Xiaomi Electronic Products Co., Ltd., Beijing Xiaomi Mobile Software Co., Ltd. and Xiaomi Home Business Co., Ltd.

In addition to its physical assets and financial assets, Xiaomi is also a company with an engineer culture. With the vision of "making everyone enjoy the fun of technology" and the product concept of "born for fever", Xiaomi is committed to providing The cost-effective products have attracted many "mi fan users" who are keen on technology around the world to participate in Xiaomi's brand building and R&D improvement, successfully creating a "fan economy".

Xiaomi's partners include Foxconn, which produces mobile phones on behalf of Xiaomi, Vanke Eslite, which is responsible for the logistics of Xiaomi Mall, and Kingsoft, which helps Xiaomi develop software.

4. Thoughts and Advice

4.1. Thoughts

In terms of products or services, Apple, like Huawei, is striving to build its own ecosystem. Xiaomi chooses a differentiated strategy in the face of domestic competitors, advocating "born for fever" and focusing on high cost performance. In terms of customer relationship, the three major companies will provide professional after-sales service and have major stores, but

Xiaomi's after-sales service is basically distributed in economically prosperous areas, and neglected in rural areas and northwest areas. Apple and Huawei have large-scale retailers and agents in China, but Xiaomi mainly sells through online channels.

Apple's target customers are mainly young people, white-collar workers, business people, and IT technicians. Huawei's target customers include not only consumer users, but also strategic customers, operator customers, and supplier customers. The degree of dependence is relatively low. Xiaomi's customer base is mainly young users. In addition to the research and development and sales of smartphones, it also focuses on investing in Internet platforms such as iQiyi.

Apple attaches great importance to product innovation and R&D, and focuses on creating high-quality products, so its cost structure is relatively high; Huawei has paid more and more attention to R&D in recent years, and the proportion of R&D expenses has continued to rise, becoming the company with the largest R&D investment in the field of communication equipment in the world; Xiaomi The cost of the group is mainly the purchase of mobile phone hardware, advertising and marketing, etc. Apple's revenue comes from product sales, software promotion fees and subscription fees; Xiaomi's revenue mainly comes from mobile phone hardware manufacturing, peripheral products, etc.; Huawei's revenue sources are wider than Apple and Xiaomi, including consumer business, operator business, etc.

A large number of human resources in Apple's core resources are programmers, designers, and developers; Huawei has an "inverted triangle" team, of which R&D personnel account for a large proportion, with a basic degree of master's degree or above; Xiaomi is a company based on engineer culture. The main company, with the vision of "enable everyone to enjoy the fun of technology", shows that the three major companies focus on R&D innovation; Apple has a large number of partners, such as electronic product manufacturers, drive manufacturers, etc. A win-win situation for partners and strategic alliance cooperation; Xiaomi also has fixed partners: Foxconn, which produces mobile phones on behalf of Xiaomi, Vanke Eslite, which is responsible for the logistics of Xiaomi Mall, and Kingsoft Software, which helps Xiaomi develop software.

4.2. Advice

the process of globalization, many companies will not choose to complete the production and business of all products alone. On the one hand, in the face of such complicated work and huge workload, it is impossible for them to ensure that everything is done perfectly. . On the other hand, this consumes a lot of time and energy for companies to focus on their core competencies. Therefore, we can learn that Apple outsources many components except the core technology of its products to other partners, which saves time and energy and ensures his original intention—investing in innovation in R&D [13]. While Apple is innovating, the latest iPhones have followed Android's dual-SIM, dual-standby, full-screen and other styles, indicating that Apple's innovation is insufficient[14]. Therefore, Apple should continue to increase product innovation. With investment in research and development, such as the current 5G mobile phone, AR glasses, VR and artificial intelligence (AI) and other fields, it is recommended that Apple humbly learn from Huawei, the leader in the 5G field. Apple's products are good, but compared with domestic Huawei and Xiaomi, their battery life is poor and their cold tolerance is also a shortcoming, which needs to be improved.

Huawei is currently at a stage ahead of similar industries, and its business model has largely contributed to the formation of its leading position. Huawei's current business model is industry-oriented, combined with the characteristics of the company's development stage and the dynamic changes of the market environment, and multi-industry and multi-service decentralized development. According to the subdivisions of key businesses, we actively seek partners for cooperation, classify customers according to different types of customers, schedule and coordinate sales channels, insist on providing high-quality products and services centered on customers, maintain stability and continuously increase cash flow. In a nutshell, Huawei

operates in terms of its infrastructure and customer interface elements, ensures its product supply, realizes financial revenue generation, and continuously creates its own corporate value. Although the Xiaomi MIUI system conforms to the usage habits of Chinese people, it needs to strengthen and optimize its system [15], learn from Apple and Huawei, and formulate a system for adopting user-related suggestions and product usage feedback, in order to effectively refer to the user's use experience, improve product functions and Better implement product differentiation strategy. Xiaomi's marketing method is still mainly on the online platform. It needs to use the accumulated fan users and influence to continue to expand the competitiveness of product distribution channels and realize the differentiation of marketing channels. Xiaomi needs to focus on the rural, northwest and even overseas regions to expand its influence and popularity.

References

- [1] Da Silva C M, Trkman P. Business Model: What It Is and What It Is Not[J]. Long Range Planning, 2014,47(6):379-389.
- [2] C. W. Ke: Construction of Conceptual Framework of Business Model Based on Dynamic Capability(Finance and Accounting Monthly),Vol. (2019) No.21, p.137-142.
- [3] A.P.Barquet: The Business Model Ontology – A Proposition in a Design Science Approach. Ecole Des Hautes Etudes Commerciales Universite De, 2010.
- [4] W. Wei, W.X. Zhu, G. P. Lin: Business Model Theory Based on Stakeholder Transaction Structure (Journal of Management World), Vol. (2012) No.12, p.125-131.
- [5] Amit R, Zott C. 2.28 Value creation in e-business. 2001.
- [6] Q.Y.Shi: Research on the Business Model of Yonghui Super Species--Based on the Business Model Canvas Model(Commercial Times), Vol. (2018) No.16, p.23-25.
- [7] W. Xie, Y. Hu: Research on the business model of brick-and-mortar bookstores--Analysis based on the business model canvas model (Science-Technology&Publication), Vol. (2017) No.8, p.4.
- [8] Y. Song: Apocalypse of Apple's Innovation and Development (Business Research), Vol. (2018) No.12, p.40-43.
- [9] Y.J.Zhang: A Perspective on the Elements of Huawei's Business Model in China(Value Engineering), Vol.38 (2019) No.17, p.228-231.
- [10] Information on: <https://www.huawei.com/cn/annual-report/2020>.
- [11] T. Zhao, Y.Z. Wu: Interpretation of Xiaomi's omni-channel model (The Business School), Vol. (2019) No.11, p.60-63.
- [12] W.J. Dai, B. Q. Chen: Analysis of financial statements of Xiaomi Group based on business model(Modern Accounting), Vol. (2021) No.2, p.32-38.
- [13] X. S. Guo: A Few Lessons From Apple's Success (National Business), Vol. (2012) No.2, p.33-34.
- [14] Q.L. Chen, C. Shen, P. Xiao: Has Apple Lost Its Innovation?(21st Century Business Review), Vol. (2018) No.12, p.10-13.
- [15] H. G. Xin: Xiaomi Apocalypse(Internet Economy), Vol. (2019) No.8, p.80-85.