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Abstract
This article will first introduce the similarities and differences between traditional pipeline business model and platform business model, in the meanwhile, focus on the advantages and characteristics of platform business models. Next, the article will explore the construction, characteristics and non-replicability of Alibaba’s platform business model. Finally, Apple’s platform-based ecosystem and hardware refactoring and their profound impact on the company’s development will be discussed.

Keywords
Platform Business; Pipeline Business; Alibaba; Apple; Business Model; Business Strategy.

1. Introduction
The second decade of the 21st century is about to pass. In just 20 years, the world has completed the popularization of the Internet. Nowadays, data terminals such as personal PCs and mobile phones are almost everywhere. The Internet connects people’s lives while also shapes new business models. With the development of Internet technology, many traditional industries with pipeline business model are now experiencing the pain of gradual decline of their profits. Besides, the rise of emerging industries such as e-commerce has put heavy competitive pressure on traditional industries. Internet companies under the platform business model, as emerging challengers in the market, easily occupy a vast market share and will surely set off a new wave of business, subvert the role assignments of traditional business models, and reshape the profit models.
As practitioners of platform business models, Alibaba and Apple are bold pioneers and direct beneficiaries. After more than 20 years of intensive cultivation, Alibaba has built its business empire. Its network has covered the entire China, and the development model it adopted has become the golden law that many companies are vying to imitate but cannot replicate. Apple is one of the world’s top technology companies known for its investment in innovation, but while it practices the strategy of disruptive innovation, Apple’s unique ecological platform business model is also worthy of in-depth exploration. Its business model is the secret that makes it stands at the top of the world.

2. Pipeline vs. Platform: A War Without Suspense
Excellent product differentiation, strong brand loyalty, a large number of plants and other fixed-cost inputs, a sufficient inventory system, a complete logistics system, an efficient supply chain, and the stable enterprise operation management, these are the main features of a successful traditional business with a pipeline business model. However, in the face of platform business models that incorporate new technologies and management concepts, pipeline business model seems to be a bit clunky. The platform business model creates value by bringing the manufactures and customers together, integrating their resources and needs [1]. Platform business companies mainly relies on high-speed information circulation and interactions. By implementing this, users of the platform will gradually accumulate, which will ultimately
achieve network effects and attract more potential users, then consolidate companies' competitive advantages. For example, when Alibaba’s online shopping platform Taobao first established in 2003, users registered for free. At that time, nearly all the platforms websites in Chinese market would charge manufactures who tended to open online stores an amount of franchise fees. The strategy of free entry fees for merchants broke through among the existing B2C websites and had begun to take shape in the Chinese market at that time. Taobao quickly established a large user base, which laid a firm foundation for its future development.

The key words of platform business model are network effect and ecosystem. The key to the network effect is to shift the economies of scale from the supply side to the demand side. As the number of users in the platform network increases, the value of the products or service will increase [2]. For example, for a newly established platform, since there are no users, the products and services on the platform will have no actual value. However, as the number of people using the platform increases, the value of the products or services will become higher, and may even form a monopolistic development. In the development model of Alibaba which to be discussed later, network effects is successfully implemented. Therefore, how to expand the business scale in the early stage of platform establishment and absorb more potential users as the platform develops has become the key to achieving network effects.

On the other hand, the establishment of a sustainable and value-added platform ecosystem is another focus of the platform business model. Unlike pipeline business that creates value by mastering linear corporate activities, which is supply chains, platform business attempts to establish a complete platform ecosystem. Starts with the four key participants in the ecosystem—Owners, Provider, Producers and Customers to realize the growth of overall value by increasing the value of participants in each role. Unlike traditional pipeline commerce, the identity in the platform economic is highly mobile. A seller on a B2C platform can also purchase the goods needed on the same platform, and a provider who provides an operating system for the platform may gradually separate from the platform owner and develop a new platform on its own. Not only that, the platform business model can connect industries that are seemingly unrelated through the platform. Therefore, the competitive pressure faced by traditional pipeline industries may come from various aspects.

Big data analysis capability is also a key factor to the success of a platform. Nowadays, big data analysis has been applied to various aspects of platform commerce. The comprehensive and accurate analysis of user behavior patterns and purchasing preferences has gradually become one of the core competitiveness of platform commerce. As Apple’s founder Steve Jobs ones said: “When the product is not placed in front of customers, they don’t actually know what their needs are.” Big data is the method to summarizing customer behavior patterns in huge amounts of data and provide accurate prediction and targeted push based on the analysis.

Perhaps for the pipeline business model, how to continuously improve the efficiency of the company’s supply chains and achieve product differentiation or cost leadership is the key to victory. Yet for the platform business model, how to react to the changing environment according to their own strategies and capacities, how to improve the adaptability to the new environment is after all the top priority.

3. Alibaba: The Business Empire With Multi-Platforms

 Alibaba can be described as a multi-platform development corporation. At the beginning of the establishment of Alibaba, the original website was not Taobao which is now flourishing and almost occupies the whole Chinese e-commerce market, but a B2B website called 1688. It is used to open up the international trade business that mainly sells products outside China. Taobao came out, with no registration fee and
franchise fee for its users, it soon accumulated the user base and achieved the network effect. In July of the following year, it launched the text, voice and video communication software Alitalk, which satisfied the need of the real-time communication between sellers and buyers. Alitalk is the first piece of Taobao’s colossal jigsaw as it greatly improved the efficiency and online shopping experience of users. In addition, in order to allow buyers and sellers to transact on the platform with risk-free confidence, Alibaba launched a third-party online payment platform Alipay several months later. When buyers purchasing goods on Taobao, the payment will first enter the third-party platform Alipay. Not until the buyer receives the goods and click "Confirm Receipt", the payment will not flow to the seller’s account, and the longest time for buyers to confirm the receipt is 15 days. Alipay is the second piece of the jigsaw puzzle, which is regarded as a product that can change the destiny of Alibaba because it gets rid of the trust crisis that may be caused by the space isolation between sellers and buyers. Soon after that, Alibaba has connected various regions of the market through Alipay, the online financial platform, and almost monopolized the payment methods of the entire Chinese market. It was not until the emergence of WeChat Pay nearly a decade later that this monopoly began to weaken.

In the early stages of the development, Alibaba demonstrated the possibility of multi-platforms in parallel and complementary. It is a very forward-looking corporate layout. Its influence continues till now and can be said to be one of the most successful business model in Chinese market. In the next few years, Alibaba developed Taobao Mall focusing on third-party brands and retailers and the C2B platform Juhuasuan on the basis of Taobao. In 2011, Alibaba decided to split Taobao to three separate platforms: Taobao website, Taobao Mall and Juhuasuan. After the launch of the new internal management model of divisionalization, each department is in charge of a different platform and is responsible for its own profits and losses. This not only gives different departments great discretions, but also greatly promotes Alibaba’s innovation which leads to the profit growth.

In terms of big data, Alibaba is also one of the earliest companies in China. In 2009, on the occasion of the tenth anniversary of the founding of the group, Alibaba launched Alibaba Cloud Computing, which added fuel to the construction of Alibaba’s business empire. With more advanced data analysis and more accurate user preference prediction, Alibaba Cloud Computing combines many new technologies and is committed to becoming a new rule maker for e-commerce.

Alibaba’s business empire does not stop online. On the contrary, in 2017, Alibaba acquired Bailian Company, expanded offline physical retail business in Shanghai, and proposed the concept of “new retail”. After nearly 20 years, when the user dividends of traditional e-commerce market is gradually fading, the huge profits are declining year by year, and the e-commerce market has gradually shown a trend of weakness. Therefore, Alibaba began to deploy offline physical industries. Not only has it signed strategic cooperation agreements with dozens of large domestic supermarket chains in just two years, it has also invested heavily in the logistics distribution industry and food delivery industry related to offline retail. At the end of 2019, Alibaba has nearly 100,000 offline smart stores, and has opened up ways to combine the offline stores with online ones, making this “new retail” possible.

The expansion of the traditional offline retail industry is another success of Alibaba’s business landscape. This also shows that when the online platform has expanded to a certain limit, how to skillfully use platform resources and influence to expand to other industries may be very important for e-commerce platforms [3]. Online driving offline, forming a new ecology of platform business model, and also creating a significant increase in company profits and competitiveness.

However, under the platform business model, customers’ brand loyalty is no longer as strong as the traditional pipeline industries. On the contrary, consumers are more concerned about
whether the platforms can provide them with lower prices, convenient purchase processes, a variety of product choices, and a guaranteed return and exchange. If everything can be satisfied by another platform, users will not hesitate to leave the original platform and switch to the new one. This has become one of the reasons why the competition in platform business industry is so fierce. In the field of Chinese e-commerce, JD.com and Pinduoduo are strong competitors of Alibaba. Although these two platforms started much later, they have continuously improved user functions and expanded online stores. In addition, they invested a lot of money at the beginning of the platform. Customers are provided with various discounts and shopping subsidies, so the user base is rapidly increased and the network effect is soon established.

When it comes to 2020, Alibaba’s business landscape has expanded to almost all aspects of people's lives. As Alibaba’s Chairman Jack Ma said when he founded the company, Ali’s goal is to "make the world easy to do business" [4]. From the beginning of the Taobao and 1688 to the full blossoming of e-commerce, social networking, entertainment and media, catering, logistics, big data analysis, and financial insurance, it has taken Alibaba for about just twenty years. The opportunities of the time are certainly one of the reasons to success, but Alibaba’s unique business layout allows people to see the feasibility of online multi-platform. The Alibaba model provides a business model for future e-commerce platforms and demonstrates the infinite possibilities of platform commerce.

4. Apple: The Triumph of Platform Ecosystem

Apple's hardware products still inevitably adopt traditional business models, such as the production, assembly, storage and transportation of mobile phones, iPad and other products. And because of the particularity of Apple’s sales of technology products, customers often have higher requirements for the experience of physical goods and after-sales maintenance. Therefore, since 2001, Apple has operated more than 500 offline stores in 25 countries and regions, not to mention the excluding large number of official authorized stores. From assembly to transportation to offline stores, Apple's offline business model is a successful pipeline business model.

However, Apple's business layout is not limited to a large amount of R&D investment and hardware sales. On the contrary, they are actively developing online platforms. The most important asset of the platform business model is to master high-quality information and realize the benign interaction between the roles of the platform. Apple, which understands this, established the App Store in 2008. This platform is different from the Alibaba's online e-commerce platform discussed in the previous section. Instead, it establishes a platform for the developers and users of different types of software, aiming to realize the interaction of software developers and mobile device users and create value in this double-sided market. With the increasing number of developers and users, the network effect is gradually achieved. As of January 2015, the App Store already had 1.4 million applications and achieved a developer profit of $250 million.

In addition, Apple has another competitive advantage: the formation of a closed-loop ecosystem. When it comes to Apple, people often think about the ecosystem that it is proud of. An excellent ecosystem often means to improve the using efficiency for end users. Apple’s ecosystem is to produce synergy in hardware, software, services, retail and accessory licensing. As long as users are attracted by one of these parts and enter the ecosystem, it will be difficult to switch to another brand.

In fact, Apple is not the first company to try to expand its ecosystem by connecting mobile phones, pads, PCs and other devices through software and systems. As early as 2010 when Windows 8 appeared, Microsoft had plans to adopt Windows 8, Windows RT and Windows Phone 8 to realize the integration of computers, tablets and mobile phones. However, because
Microsoft incorrectly estimated the development direction of the computer market, its touch interaction mode still cannot be integrated with the traditional operation mode of keyboard and mouse until today, and the brand-new system has high learning costs for its users. Therefore, even though Microsoft has put more effort into Windows 8 than previous operating systems, it still has not yet gained recognition from users and the market.

In 2008, Apple purchased P.A. Semi at a price of US$278 million, officially starting the development of the chip division. In 2019, Apple bought part of Intel’s modem business at a cost of $1 billion. Since 2010, Apple’s iPhone, iPad and Apple Watch have been using self-developed "A" series chips. Apple is accumulating experience, observing market feedbacks, and waiting for the opportunity.

At the beginning of November this year, Apple released the new M1 chip. The addition of this new chips greatly completes Apple’s closed-loop ecosystem. Apple has achieved the goal of independent research and development of high-performance chips, and got rid of the situation of chips being contained by Intel. The performance of the M1 chip is two to three times better than that of Intel's latest chip. In the M1 chip, the CPU, GPU, and NPU are all designed for different types of machine learning, and AI learning performance has also been unprecedentedly improved [5]. Sophisticated craftsmanship also brings lower energy consumption to Apple M1. According to reports, with the M1 chip inserted, the 13-inch MacBook Pro can achieve 20 hours of battery life, while the MacBook Air’s battery life has reached 18 hours, both of which are the current best results of all product lines, alleviating the pressure of long-lasting criticism that Apple’s lack of battery life.

Apple’s latest M1 chip has set off a huge wave in the industry. The emergence of M1 means that the App Store will not only connect users and developers on mobile phones and tablets, but can also break through the software barrier between Mac, iPhone, and iPad. The future software can be used on all Apple hardware. This new ecosystem no longer uses Intel chips as the carrier, but directly adapts to the M1 chip developed by Apple itself, which is a huge improvement in Apple’s ecosystem.

Apple’s ecosystem still has many specific aspects, such as saving user names and passwords across platforms, and sharing passwords when connecting to wireless networks; albums and documents can be synchronized on different devices if under the same Apple ID; various outfits such as HomePod, AirPods and Apple Watch are specially prepared for iPad, iPhone and macOS [6]. These have greatly optimized the users’ experience. So this is why many mobile phone manufacturers cannot replace Apple's position even if they can create phones with better performance and more attractive appearances than the iPhone.

It is not better quality film that defeats Kodak, and it is not firmer non-smart phones that defeat Nokia. Similarly, it is not just a single product that can defeat Apple, but a better ecosystem construction. Apple provides another model for platform commerce: platform commerce can surpass the platform itself and realize the construction of a large ecosystem.

5. Conclusion

Companies do not necessarily need to adopt only the traditional pipeline business model or the platform business model, but can combine the two to improve their corporate planning. Just as Alibaba’s multi-platform development drives the development of offline physical stores or the possibility of retaining offline business and actively expanding the platform ecosystem adopted by Apple, or the acquisitions and shifts of Google and Amazon, all are the examples of the organic combination of pipeline business models and platform commerce. For a platform company that is just starting out, it is a very important business strategy to expand the user base, form network effect, accurately locate the needs of users, actively establish a platform ecology and achieve benign interactions between various parts. For traditional business
companies that are already of considerable scale, how to adjust their corporate competitive strategies, expand platform businesses, and achieve diversification of distribution channels is a possible future development direction. For e-commerce companies that already occupy part of the market and have a certain scale, it is the general trend of the future to strengthen the innovation and product understanding and establish a platform ecosystem.

References


