

IT Business Model: Case Study of TikTok

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Abstract

From the late 19th century to the mid-20th century, the geostrategic significance of the Korean Peninsula evolved, becoming a focal point for major powers' strategic interests. This paper analyzes the intervention behaviors of Russia, China, Japan, and the United States from the perspective of "intervention theory." Initially, China shifted from a passive to an active intervention policy to counter Japan's growing influence in Korea, especially after the First Sino-Japanese War. As China weakened, other powers, including Russia, the U.S., and Germany, increased their impact. In the early to mid-20th century, Japan's ambitions led to more aggressive interventions. The United States, departing from its Monroe Doctrine, used economic and cultural means to influence the region. After World War II, the U.S. and Soviet Union emerged as the main powers intervening, leading to a power vacuum and the outbreak of the Korean War. This historical analysis through intervention theory offers new insights into contemporary Korean issues.



Full Text Article



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Keywords: information technology (IT); IT business model; TikTok; Osterwalder framework

Introduction

With the swift development of information technology (IT) and the appearance of the fast-paced lifestyle, the era of fragmentation has arrived (Hu, 2020). Modern people have no patience to read long papers or watch long videos because they are now faced with greater pressure than the past in this highly competitive society and there is crazy tempo of life. That means most people prefer to spend small moments of time entertaining. In this way, the form of short videos which delivers information in a concise but rich format is more likely to be accepted by the public. Short videos are the products in the information age which have become the mainstream on social media platforms with the characteristic of fast spread and high output (Xu et al., 2020). On the other hand, the outbreak of Covid-19 has meant an abrupt change in social media and pushes the development of short videos because of more free time for people, and thus there is an increasing number of short video users (Liang, 2021). That definitely brings great chance for short video companies such as TikTok, Instagram and YouTube to make profit. In fact, before short videos became widespread,

those video platforms provided users with different length of videos including short videos, but long-form videos still played a leading role for a long time (Wu, 2021).

TikTok is a platform of short videos and also uses a video function for live streaming with the idea of recording life with music short videos (Peng, 2021). It has been widely used in large amounts of countries worldwide, and has 75 language versions now (Kibet, 2021). In the current social media platforms, TikTok is one of the fastest growing platform in the world which was launched by the Chinese company ByteDance in 2016. Its downloads increased to its highest points at over 313.5 million in the first quarter of 2020 (Ceci, 2024). IT services of TikTok enable users to create and share short videos and broadcast live video content in real time. The key technology of TikTok is AI algorithms which can recommend personalized content to users based on their interests and interactions, which will be introduced in next section. Moreover, TikTok provides users with e-commerce, which means that users can purchase products from short videos, livestreaming or TikTok shop. Overall, IT business model is the key to the successful business of TikTok. This essay analyses TikTok's IT business model based on the Osterwalder framework in order to have a better understanding of its concepts, theories and ITs.

Literature and Concepts

Artificial Intelligence including algorithms and machine learning is the core competency of TikTok, and also directly reflects the main creative idea of the TikTok, which is key to the company's success (Feldkamp, 2021; Ma & Hu, 2021). The core technology of TikTok is 'Computer Vision', which is implemented by the App Toutiao to provide a personalized and engaging experience for users (Lan, 2022). To be more specific, users do not have to think or search for the content of short videos they like with the algorithms of Computer Vision which can queue up videos for them automatically based on the user data. Big data technologies are used to process and analyse data in real time. TikTok collects the data of users including their likes, comments, shares and browsing history so as to provide more videos they might like. These data are typically stored in databases. In addition, there are several types of video content which people can choose as their preference when they first download TikTok, which is customization option while Toutiao can also consolidate and organize data of users as time goes on as mentioned before.

In terms of machine learning, algorithms continuously learn user interactions and then improve the accuracy of content recommendations over time, which ensures that 'For You feed', the default landing page for users (Jaipong, 2023), is accurate and adapts to user preferences. 'For You feed' not only provides a personalized recommendation system but also the function of 'Hashtags' and 'Challenges'. Challenges are initiated by the platform, creators and brands with the contents of dance, songs, comedy and storytelling to increase the visibility and reach of their videos. Challengers can use hashtags to categorize and label their content in order to attract those who are more interested in that specific area.

Internationalization refers that a company not just develops in the local market but moves into foreign markets (Dominguez, 2018). As for TikTok, its internationalization can be shown in following ways. Section 1 has mentioned that TikTok has 75 language versions now. That means users can choose their preferred language for the interface, menus and other text elements. Moreover, short videos in different countries show different contents because of cultures and

regions difference. On the one hand, people enjoy videos which are more related to their countries where they live since they pay more attention on things and people around them most of the time. ‘Same City Videos’ is a specialized function provided by TikTok and allows users to watch videos created by people who have the same location. On the other hand, people from different countries might have different interests and thus TikTok recommends them videos accordingly. For instance, Korean and Japanese love street dance videos while European users are more interested in extreme sports. In addition, TikTok collaborates with brands all over the world to attract more people to join it such as clothing brands like Li Ning from China, cosmetics brands like Innisfree from Korea and electronics brands like Apple Inc. from America.

Another key concept of TikTok is ‘Modularity’, a design principle, which refers that a complex system can be divided into different parts and then integrate the parts into a coherent whole in order to get a more convenient and structured design (Brusoni et al., 2023). In terms of a video in TikTok, it has two main modules: audio module and video module (Mhalla et al., 2020). To be more specific of video module, video editing is divided into small modules such as adjusting colour levels and brightness and adding filters, stickers and words. When creating a video, the internal program decodes the video content for uploading. It combines all small modules to a complete video before releasing the video. All modules work together so as to create more perfect videos which meet users’ requirements.

TikTok provides two types of videos: recorded video and live video. It transmits the information of videos to the specific database through the Internet so that the videos can be implemented on the application layer (Mhalla et al., 2020). The basic difference between those two types of videos is the form of data storing. Recorded video is stored as large amounts of images while live video stores data information in the form of a streaming video. In addition, most recorded videos are recommended to reduce file size but still preserving visual quality. However, the data of live video should be processed in real time, which means that update of the special effects and real time interaction between creators and viewers make it hard to compress the data.

Section 3 will introduce Osterwalder framework as TikTok’s IT Business Model. The Osterwalder business model is a strategic management framework which provides a structured way to analyse how value will be delivered, experienced and acquired in a company (Osterwalder & Euchner, 2019; Richardson, 2008). It helps a company to visualize the business forms in a structured manner in order to adapt the core business strategies and best support the business goals so as to enhance the core competitiveness and improve business performance of the company. Osterwalder business model offers nine key components in the form of graphs: key partners, key activities, key resources, value proposition, customer relationship, channels, customer segment, cost structure and revenue streams, which provides a comprehensive overview of how a company operates value.

Analysis

This section analyses TikTok’s IT Business Model by using Osterwalder framework as shown below with the aim of having a better understanding of what and how value will be created, delivered and captured.

Table 1: TikTok’s Business Model based on Osterwalder framework
 (Source: developed from Apptunix, 2022 and Peng, 2021)

Key Partners Celebrities and other influencers Companies of fashion, food, beauty and travel Advertising partners (social media cites like music app and Instagram) Technology partners Local government	Key Activities Video recommendations Video making Live streaming	Value Proposition Entertainment Fragmentation Friend making Personal satisfaction (fame, life record, pursuit of beauty) Accessibility Globalization	Customer Relationship Mutual benefit: Precise recommendations Recognition and traffic Feedback mechanisms	Customer Segment People in both urban and rural areas New generation
	Key Resources Technology (Algorithms and Artificial Intelligence) Copyright of music Human resource		Channels Mobile App Website Celebrity effect Advertising	
Cost Structure Technology costs Music copyright Signed celebrities Staffing costs			Revenue Streams Advertising fee Live streaming E-commerce cooperation	

The key partners of a company are key to business success since they can provide support from every aspect to the company. The key partnerships that TikTok builds with celebrities and other influencers around the world are central not only to the success of TikTok but also to the possibilities of realization of short videos. Section 1 has mentioned that music is a key element of TikTok’s creating concepts and thus TikTok cooperates with singers and artists. In this way, TikTok can get permission for more songs so as to provide users with more options of audios to create short videos and more activities such as music-related challenges. Moreover, cooperating with brands of fashion, food, beauty and travel and advertisers of social media cites can attract the visitors who are interested in those areas to use the platform. Those companies also offer TikTok good ideas for designing new and creative activities. For instance, the platform can produce the short videos of makeup tutorials by collaborating with MAC cosmetics. As for social media sites, TikTok cooperates with Instagram by advertising, which means that it has opportunities to reach the users from Instagram (Haenlein et al., 2020). In addition, technology companies are crucial to the partnership of TikTok since the development and expansion of TikTok cannot last long without sophisticated technologies including video editing, cloud computing, data management and augmented reality. TikTok also works closely with local governments to ensure that it complies with local laws and community standards which are related to its operations such as data protection

law. Overall, those key partners enhance the competitiveness of TikTok and contribute to its development in the highly competitive social media market.

There are three key activities of TikTok to make its business model work. On the one hand, TikTok recommends personalized content of short videos to users based on their interests to retain users as much as possible. On the other hand, the platform of TikTok makes sure that videos from them run smoothly. As for short videos, TikTok enables users to create, watch and share short videos, which should ensure a positive user experience on its platform. In terms of live streaming, TikTok allows users to access TikTok live and start broadcasting live to their followers on the platform, and thus TikTok has the responsibility to ensure the security broadcast and the synchronization in every signal.

The key resources of TikTok are strategic assets which support its activities. The technology resources are necessary for TikTok including algorithms and Artificial Intelligence which have mentioned in section 2. To be more specific, the recommendation system which is achieved by algorithms based on the interest of users is a key resource to build users personal engagement with the platform (Peng, 2021). In addition, Audio is a key component of TikTok, which has been mentioned in section 1. That means the copyright of music plays an important role in the operation of TikTok. The platform provides users with different types of music for creating different short videos such as videos of dancing and travelling. Human resources including engineers, designers, content moderators, business professionals and customer support teams are also key resources for managing operations of the TikTok platform and delivering value to its users.

Nowadays, almost all modern people lead a hectic life and thus they are willing for a way of entertainment which is not only relaxing but also time-saving. TikTok is fully consistent with their needs of entertainment and fragmented time which are the main value proposition (Jaipong, 2023). In TikTok, users can watch interesting and relaxing short videos and share them to their friends so as to relieve stress and gain happiness, and they can also unleash their creativity by creating their own short videos to express themselves through singing, dancing and storytelling. In addition, there is always the possibility of making new friends who have similar interests in the comment section of videos (Yao, 2021). TikTok also provides users a sense of personal satisfaction and achievement including fame, life record and pursuit of beauty. For instance, users can use stickers and templates of audio and video to make their videos lively so as to satisfy themselves. Moreover, although most users are currently young people, TikTok is available to all age groups and people from both urban and rural areas because of the user-friendly interface and intuitive features, which indicates its accessibility. As for globalization, TikTok aims to reach customers all over the world to share their creativities, and it has been used in more than 75 countries which has been mentioned in section 1.

TikTok aims to foster a highly interactive and engaging environment for customers to maintain a mutual, reliable and long-term relationship between the company and the customers (Jaipong, 2023). TikTok has a precise recommendation system which queues up great and funny short videos for users, which can best match the interests of users in order to deliver a good customer experience. Meanwhile, users like celebrities and influencers can provide exposure to the platform so that TikTok can attract more advertisers to invest in it. By winning high recognition from users, TikTok is also able to maximize the market's share. Moreover, users can provide feedbacks and suggestions through forms or surveys in the platform, which helps TikTok to know more about user preferences and improving direction.

In order to effectively engage with users and keep long term relationship with them, TikTok uses different channels to reach its users and deliver its services. The mobile app is the main channel for TikTok which is easy to download and is available on both iOS and Android devices. Users can also access the platform on the website directly. That means it is not necessary to download the app, which provides great convenience for those who want to try out the platform first before downloading. In addition, by cooperating with celebrities and other influencers, TikTok can attract more potential users including fans and people who admire those influencers. Social media sites can also be a good channel since they will put the advertisement of TikTok on their platform if they collaborate with TikTok so as to attract more people to join TikTok.

TikTok can be accessed by all citizens from both urban and rural areas. It has gained significant popularity among teenagers and young adults who use TikTok as a platform for self-expression, entertainment and sociability, which indicates that young people seem to use TikTok more frequently than old people. However, TikTok also attracts a sizable audience of adults who prefer to engage with educational and meaningful contents including finance, career advice and mental health.

By managing its costs effectively, TikTok can operate its business model efficiently and deliver value to its users. TikTok's costs come from its key resources in general. TikTok invests most in technology which is important in the IT business model. That means the platform should focus more on servers, data processing and cloud services to support its operations. TikTok also allocates large amounts of funds for music copyright and signed celebrities including licensing fees for music, video content and intellectual property rights (Peng, 2021). This is because it aims to be a music short video platform which has been mentioned in section 1. Moreover, it is necessary for TikTok to spend money on staffing since the company has to pay wages and provide benefits for its staff such as engineers, marketers and accountants.

It is important for TikTok to have enough money so as to support TikTok's business model and drive its long-term success and growth. For TikTok, there are three main ways to generate revenue. TikTok offers advertising opportunities to brands to promote their products. It can charge fees for displaying advertising on its platform. In terms of live streaming, TikTok charges live streamers a small percentage of their income for using the platform. It has a virtual currency system in which real money can be turned into virtual currencies and then to virtual gifts so that viewers can give virtual gifts to the streamers they like (Mhalla et al., 2020). In this way, streamers receive a share of the revenue generated from virtual gift purchases while TikTok takes a cut as well. In addition, TikTok earns revenue by cooperating with e-commerce platforms and taking a commission from sales. TikTok introduced a way of shopping in the platform in 2019, which is by clicking the button in a video below to jump to an e-commerce platform (Bailey, 2020). That means users can purchase products indirectly through TikTok, which is a creative way to gain revenue for the platform.

Discussion and Conclusion

The key to success of TikTok is the IT business model which supports its business operations and value delivery. This study sets out to analyse TikTok's IT business model with its concepts, theories and ITs based on the Osterwalder framework. Nowadays, there is an increasing number of modern people who are willing to find a easy way for relaxing and entertaining, and TikTok can meet their

expectations whose value proposition is to create a strong and lavish music short video community for people of all ages. Customer relationship plays a vital role in the success of business of TikTok. On the one hand, TikTok collects ideas and suggestions from its users with the aim of being a trustworthy and user-friendly platform. On the other hand, it cooperates with influencers and brands in order to increase its customer base.

The key resources of TikTok indicate the power of technology including algorithms and Artificial Intelligence which is to recommend personalized content to users based on their interests, which is supported by the platform including the app and the website. Therefore, the maintenance of the platform including servers and databases is an expensive part in the cost structure. It is also important to invest in the resources of music copyright because of the company's philosophy which is to build a music short video community. That means TikTok should collaborate with music companies as much as possible. Although the cost of TikTok is high, the revenue stream is stable. TikTok can get huge revenue from video creation, live streaming and e-commerce, which ensures its ability to extend into more markets globally. Overall, making full use of IT business model helps TikTok to adjust business strategies and enhance operational efficiency so as to create more value and sustain competitiveness in highly competitive markets.

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Conflict of Interest

The authors declare no conflict of interest.

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