

Research on Business Model Innovation of Short Video Enterprises from the Perspective of Community Economy

—Taking “Douyin” as an Example

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Abstract—To provide business model for short video company management innovation to provide enlightenment, this paper respectively from the internal and external environment, community analysis, value proposition, business systems, profit model, to analyze the short video enterprise business model transformation, and select "Douyin short video" as an example, studies its business model iterative logic. Research shows that policy regulation has a significant impact on business models; Enterprises should balance the degree between commercialization and user experience to improve long-term loyalty; In the age of community economy, enterprises should attach importance to the value creation of users. The uniqueness of this paper lies in the innovative combination of community economic perspective and iceberg dynamic feedback model to analyze the change of business model.

Keywords—community economy, short video, business model, iceberg dynamic feedback model, Douyin

I. INTRODUCTION

Thanks to the development of network infrastructure and communication technology and the support of "Internet +" policy, short video ushered in the golden development period in 2016. Also because of the large output, fast distribution and other attributes in line with the characteristics of mobile Internet communication, short video has become the mainstream form of information products at this stage. In 2018, the number of short video users in China reached 648 million, among which Douyin and kuaishou were firmly in the first echelon of the industry, with a penetration rate of up to 54.25% among short video users. Pear video focuses on short news, video, UGC and live streaming. Vlog focuses on video network diary; Douyin hit music UGC short video. At present, domestic short-term video enterprises have a variety of business models, mainly including third-party advertising, short-term video + e-commerce, content reward, etc. In addition, papitube's MCN model has also begun to rise and develop, attracting market attention.

Founded in 2016, Douyin has rapidly grown into an industry leader in just three years. According to data from SensorTower, in the first quarter of 2019, the number of new

users of Douyin reached 188 million, a 70% increase over the same period last year. In May 2019, the global revenue of Douyin and TikTok reached \$9 million (excluding third-party android channels in China), a 500% increase over last year. As of July 2019, Douyin has more than 320 million daily active users, and TikTok has 200 million users in India. Its users can be found in more than 200 countries and regions in the world, including Southeast Asia, Japan and South Korea, North America, Europe and Latin America. Short video, as a form of phenomenal-level communication in today's society, has exerted a profound influence on people's life. Douyin, as a head product of short video in China, has a significant representative change in its business model.

Firstly, the existing literature and research results of community economy and short video business model are sorted out, and a new iceberg dynamic feedback model is formed as the analysis framework. Then introduce the short video development process and short video development problems; then, the dynamic feedback model of iceberg is used to analyze the change of Douyin's business model, to study the advantages and disadvantages of its existing model, and to discuss the key elements of its successful business model. Finally, the paper summarizes the enlightenment of short video enterprise business model development.

II. LITERATURE REVIEW

A. Community Economy

The concept of "community" originally refers to the aggregation of human beings. German scholar Tonnie believed that "community" focuses on the relationship between people. Just like traditional communities, emerging communities such as virtual network communities are aggregation of the same culture, values, interests, etc. Different from the addition of Internet technology, people's information transmission mode changes. Compared with traditional communities, new communities are flatter and share and cooperate [1] (Fang H, 2016).

Qiong Z (2018) divides online communities into four categories according to content and social orientation:

resource-oriented, knowledge-based, entertainment-oriented and emotion-oriented. She believes that community economy with the help of the Internet is an important force to reconstruct the society [2]. In the study of marketing communication on community economy, Ming C (2018) argues that community economy has the emotion type, self-organizing and productive characteristics and scope of economy, the impact of the change in the field of marketing communication, from the shift from "extensive consumer groups" for consumers in the true sense, from marketing to on individual consumer community marketing, from "information production, information communication" to "content production - content sharing"[3]. Mao Y (2018) believes that the essence of community economy is the productivity and value increment ability of the community itself, and the Internet outlet is the community economy, and the community economy will accelerate the pace of e-commerce industry to seek transformation. In the stage of community economic development, from the model of fan community, opinion leaders spread personal professional knowledge to those who need knowledge; To the e-commerce community model, community members to discuss related products; Then to the model of community we media, community members for knowledge concepts or video audio articles, etc.[4].

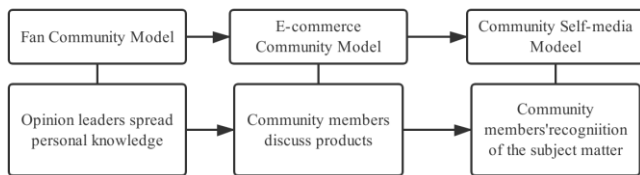


Fig.1. Community economic development stage

Therefore, the core of community economy is the establishment and maintenance of common interests and values. Although Internet technology makes the emerging community more differentiated and flat, but based on common interests and hobbies to build the community in the business operation how to use this kind of differentiation, flat and common interest, value and other characteristics are worth in-depth discussion.

B. Short Video Business Model

Combining with the characteristics of The Times, the academic circle studies the innovation of business model. On the application model research of business model, Li wenlian et al put forward smile curve model. Wang yanyu et al. proposed the infectious disease model. Wang shouyang et al put forward the theoretical model of iceberg. Many scholars have studied the theory of business model elements. According to Hamel and Ruben, the elements of business model include core strategy, strategic resources, customer interface and value network. Johnson et al. pointed out the logical relationship among customer value, profit model, key resources and key processes. Shafer et al. summarized the core elements of business model into four categories: strategic selection, value network, value creation and value acquisition. The elements involved in the RCOV model established by Demil and Lecocq include resources and capabilities, value proposition, and

organizational structure. Wei jiang et al. summarized the theoretical achievements of scholars and divided the elements of business model into strategic choice, value network, customer value proposition, and creation value acquisition. Wang shouyang [5] (2015) applied TEI@I methodology in the field of business model to form CST@I methodology, and emphasized the importance of tacit knowledge and integrated analysis in business model with iceberg theory, forming a complete framework for business model analysis. Wu chao [6] (2017) built the dynamic model of iceberg theory and CET@I methodology to study the change of business model of we media.

Since 2013, domestic research on short video industry began to attract people's attention. Hui Z (2016) believes that the business model of "we media" can be divided into three categories: content-based payment, advertising marketing and e-commerce, and believes that the development model follows the operational rule of "content diversion - traffic realization - industrial chain extension". Although the business operation mode of short video industry characterized by fragmentation is relatively mature, it still needs to pay attention to the realization of content other than advertising information flow, improve profitability and business value, and build an efficient, diversified and sustainable business model path (Peixian W, 2018)[7]. Jun W (2018) analyzed the business model of short video industry from the perspective of value proposition, user behavior, market strategy, relationship management and other elements. Jiuh W (2018) based on the perspective of value to create a short video of the logic of business model, emphasize the subject status of the user in value creation, think that business model innovation is driven by the industry's internal and external environmental factors, value proposition, capture, create value, value passed four modules constitute a complete value to create a logical ring, spiral improved short video business ecosystem benign operation and business model of reform and development [8]. Shuang W (2018) believes that the transformation and upgrading of the short video industry should be realized through a business model that focuses on the product matrix of differentiation and diversification and deepens the value of the platform [9]. Ziwei D [10] (2019) analyzed the business model of video network by establishing a two-dimensional structure model, and proposed to construct the ecological circle of "PGC+UGC+ interest community" from three aspects, including content, marketing and profit model, to form the marketing system of "interest + social interaction + short video".

As a successful business case of short video industry, Douyin has been widely studied and imitated, but in the end, there are not many successful people. Therefore, this paper combines iceberg theory, CET@I and community economic perspective, emphasizes the community economic perspective on the basis of iceberg dynamic feedback model, and forms a new iceberg dynamic feedback model. From the perspective of explicit knowledge and implicit knowledge of business model, the framework of iceberg dynamic feedback model is constructed. From the perspective of explicit knowledge and implicit knowledge, the five aspects of internal and external environment, community, value positioning, business system and profit model are analyzed. Tacit knowledge will affect

enterprise decision-making and promote enterprise reform; Changes at the explicit level also interact with tacit knowledge. Based on the iceberg dynamic feedback model framework, Douyin is dynamically analyzed to understand its business model transition process, its internal mechanism and key elements.

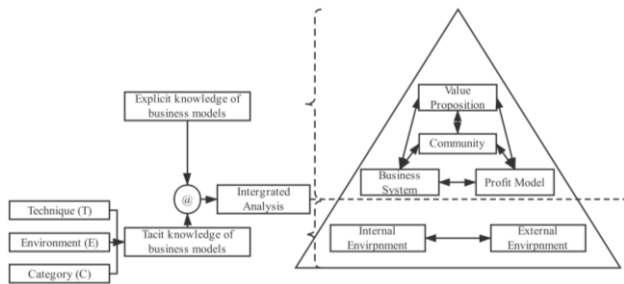


Fig.2. Business model analysis framework from the perspective of community economy-new iceberg dynamic feedback model

III. BACKGROUND INFORMATION

A. Short Video Development History

Short video refers to a social video application with short video length, which relies on intelligent mobile terminal to realize shooting and editing operation and can be shared in time. Short video products usually have: video length is short, generally controlled within 30 seconds, such as sina Miaopai, Kuaishou, Douyin, etc. Low production threshold, simple operation, relying on intelligent terminal rather than professional shooting equipment can be shot and enjoy; Strong social attribute, short video, which is mainly spread on social media platform, has strong sharing attribute. Short video production mode according to the producers and the Content of the operation mode of different can be divided into: UGC (User Generate Content), PGC (Professionally Generate Content) and PUGC (Professional User Generate Content).

Short video apps first appeared in the United States, and video sharing startup Vine officially launched short video in May 2009. The domestic short video App was launched a little later than that of foreign countries. On August 28, 2013, sina released “weibo” app with built-in “miaopai” function. On December 16, 2013, sina released the official application of miaopai. Tencent “weishi” was also launched on September 28, 2013. In 2013, kuaishou technology launched kuaishou APP, through which users can make and share short video, browse others' works on kuaishou, and interact with other short video authors. On May 8, 2014, meitu xiuxiu launched meitaopai. On the first day of its launch, it reached the top of AppStore. By the end of 2014, it had more than 100 million users. Douyin was launched in September 2016. Less than three years after its launch, the short video has surpassed other old short video apps on a daily basis.

According to the 43rd China Internet development statistics report released by CNNIC, as of December 2018, 2018 short video application user scale is 648 million, half-year new short video users 53.95 million, user scale growth rate of 8.3%, Internet usage rate of 78.2%, half-year growth rate of 4.1 percentage points. Meanwhile, 11.4% of the time spent online

was spent by users, surpassing video (8.3%) and becoming the second-largest product type after instant messaging.

At Present, maturely developed short video platforms in China can be divided into six types. They are social media (represented by Douyin and Kuaishou), information media (represented by iXigua and Miaopai), BBS (represented by Bilibili and Acfun), SNS (represented by momo and moments videos), e-commerce platform (represented by videos of sellers in Taobao and Jingdong), and tool application (represented by VUE and VivaVideo), among which Douyin, as well as Kuaishou, occupy the leading position in the market.

B. The Problems Short Video Faces

In the last few years, short video has grown rapidly and the number of users has been increasing year by year, which shows the promising prospect. Nevertheless two disadvantages are becoming increasingly prominent as well, restricting the development of short video.

The first problem refers to the long-term customer loyalty. Due to the low barrier to entry, the contents of UGC are of variable quality, and a high degree of homogenization will be resulted by using algorithm to match users' short videos. Therefore, in a short while users may be attracted by newness, however in the long run videos of low quality and high homogenization will lead to customer churn, problems like low loyalty degree of long-term customer appearing.

The profit model of traffic monetizing becomes the second problem. At present, the main profit channel of short video platform is based on product placement. Although it is easy to make customers addicted to short video in a short time, the long-term take rate is still low and the liquidity proves to be weak. Consequently there are difficulties in attracting advertisers.

As a result, the establishment of robust mechanism and long-term business pattern is still the significant problem that the majority of short video platforms need to face and solve. Hence numerous short video platforms begin to seek transformation actively, and Douyin is one of them.

IV. DOUYIN CASE STUDY

A. The Brief Introduction of Douyin

Douyin, launched on 26th September 2016, is a music creativity short video application focusing on the new generation. Currently, the average daily view counts of Douyin are more than one hundred million and DAU is of several million. Users of Douyin appear in NetEase Music as well. According to Douyin's annual data report in 2018, the amount of daily attendance of domestic Douyin users surpassed 260 million, and Users of Douyin appear in more than 200 countries and regions.

TikTok, Douyin's overseas market version, was launched in May, 2017. Due to the saturated domestic market and sharp competition, it is natural for Douyin to seek for places where more chances emerge. TikTok merged with Musical. Ly to launch new short video platform, adopting the original name TikTok. The strategic emphasis of Douyin lay in the increase

of overseas market users in 2018. By 2018 TikTok had received downloads more than 5 million on Google Play.

Douyin is a typical short video community. Compared to tool application and information media, community short video owns the feature of social interaction, and essentially has higher user viscosity as well as attraction, thereby it can better meet users' demand.

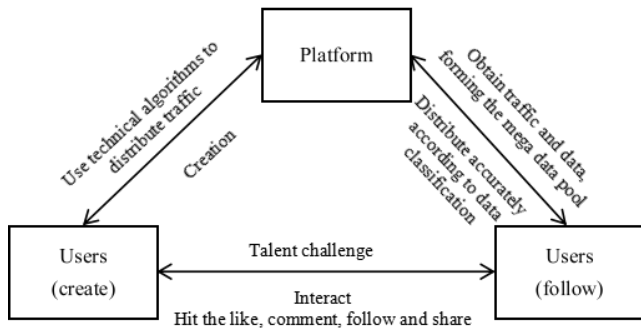


Fig.3. The operation model of Douyin

B. Three Business Model Transformation

1) Community Construction: Business Model during Exploratory Stage (September 2016–March 2017) :

a) Internal and external environment: Driven by Internet plus plan, the content entrepreneurship showed the booming development trend, and short video was regarded as the most promising area of the content entrepreneurship. The short video industry entered the rapid development period, arousing the concern of commercial investment. Zhang Yiming seized the opportunity, forging product matrix and creating Douyin App to fill ByteDance's gap with regard to contents collecting App. The slogan was "Let worship begin here".

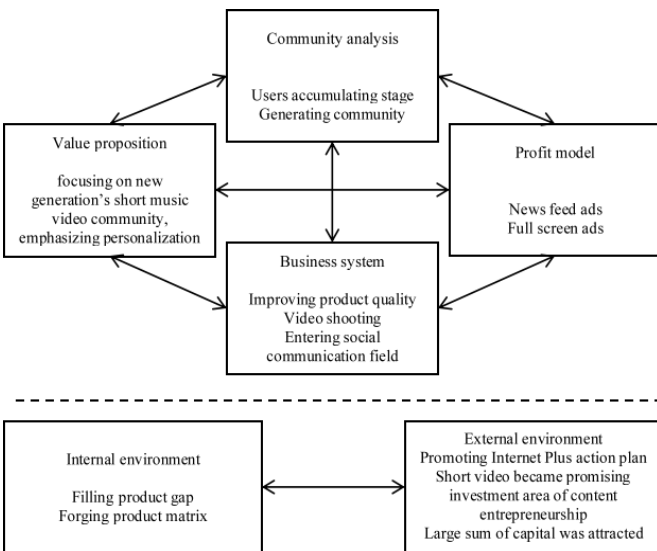


Fig.4. Analysis of Douyin's business model in the initial stage

b) Community Analysis: During this period Douyin was in users accumulating stage. The downloads proved to be low and possessed no distinct users group feature. The typical community had not been formed yet. Using methods like signing potential Internet celebrities up, developing users' habits and basic social communicating Douyin "generated community".

c) Value proposition: The product that ByteDance published was initially called "A. me-music community short video", and was officially renamed as Douyin in its 1.2.2 version in December 2016. The short video industry was in keen competition before Douyin's entering. In order to gain more market share, Douyin set the target customers as young generation in first-tier and second-tier cities, avoiding competing with the industry leader Kuaishou. The products of Douyin short video were positioned as "creations of every user", focusing on new generation's short music video community, emphasizing personalization in its initial stage, providing everyone with chances to present talent. Everyone can be in the spotlight as a star.

d) Business system: After launching, at its early stage, instead of conducting activity promotion extensively, Douyin made enough preparation and generated strength quietly, concentrating on improving product quality. The main promotion method was mere Weibo and activities like "Zhao Liying's best support fighting" campaign, Christmas campaign, etc. Product operation was in exploratory stage as well, during which product was simple video shooting. Then in 1.0.1 version, users could invited friends of Contacts, Wechat and QQ, which performed as the method to increase traffic and showed Douyin's intention to enter social communication field.

e) Profit model: Douyin adopted the method of advertisement monetizing to gain profit, and news feed ads and full-screen ads serve as two ways of advertisement. In general, the profit-making point was single and vague.

2) Community Developing: Diversified Business Model (March 2017–March 2018)

From March, 2017 to February 2018, Douyin's per capita application activation times was 5.87, and the average daily use time reached 48.47 minutes. The monthly retention rate approached 65%. During Spring Festival in 2018, Douyin had remained ranking first on daily download list for 16 days. Since the second half of 2017, the user amount of Douyin began to increase rapidly from 5 million. By early 2018, the user amount was around 200 million.

a) Internal and external environment: The mobile Internet users showed the increasing demand for short videos, and due to the mature mobile Internet technology as well as the dynamic contents' dissemination strength of short video, the barrier to creating short video was lowered. The content of video was transformed from UGC form to PGC, which was operated in a more professional way.

b) Community Analysis: Douyin attracted a great number of young people in the first-tier and second-tier cities in a short time through the community generating in the initial

stage and fans community model resulted by star effect. Douyin used celebrities' participation to attract a large quantity of fans users, and frequently exposing Douyin in various activities such as The Rap of China and Happy Camp to catch program fans' eye, forming communities based on celebrities, IP and activities topic. In May, 2017, the daily view counts of Douyin was more than 100 million, then in August, it reached 800 million. 85% of Douyin's users were younger than 24 years old. Meanwhile Douyin made efforts both above the line and below the line, holding activities, like "addicted to Douyin Chengdu Station-shaking in Chengdu", "Story of East zone in Beijing 751D", and "IDOU night carnival", to enlarge the influence, developing Douyin talents from above the line to below the line.

c) Value proposition: Douyin position itself as "original short video sharing platform". By supporting users and attributing traffic, Douyin guided users to create and share videos that were in accordance with brand positioning. The products were positioned as multilateral UGC content-based product and weak-socialized product resulted from instrumental feature. Highlight all author and affiliation lines.

d) Business system: The stage focused on operation and promotion, accumulating user amount, fully arranging Douyin market. Douyin provided new functions and adding more interesting playing ways to encourage users to create interesting output. During this stage Douyin also brought out webcast function and carried out technologically international strategy, then TikTok was launched overseas.

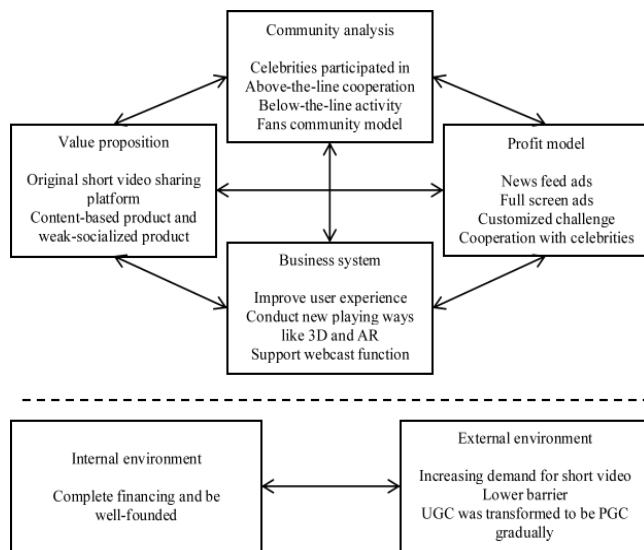


Fig.5. Analysis of Douyin's business model in the developing stage

e) Profit model: Douyin adopted various ways of monetizing including full screen ads, news feed ads, customized challenge and cooperation with celebrities. Advertising short videos from enterprises, such as brand advertisement of Airbnb, Harbin Beer and Chevrolet, were also used for promotion.

3) Community Maturing: Industry Chain Business Model (March, 2018–Now) :

a) Internal and external environment: With all kinds of short video apps into the market, the market competition has entered the white-hot stage. Consumers have higher and higher requirements on the quality of short video content. At the same time, the quality of video is uneven after the surge of users of douyin. Overseas douyin also has endless negative news, such as Indonesia's ban and fine.

b) Community Analysis: Douyin concentrated on video makers and MCN celebrities who signed with platform or owned a large number of followers through their own efforts, establishing studios firstly in short video industry, encouraging them by help them take advertisements and improving methods of monetizing such as profit-sharing, thereby enhancing the loyalty of opinion-leading users. Douyin also supported shopping cart function, allowing users to show TaoBao links and create shopping platform, sharing quality goods used by stars and celebrities, by which Douyin formed e-commerce community model.

c) Value proposition: The products were positioned as "recording wonderful life". Short videos were developed in vertical field. More and more government departments entered into the platform, making use of vivid short videos to assist in various work like improving government image, publishing news and introducing tourist attractions. By late October 2018, there were more than 4500 government departments that obtained the official certification.

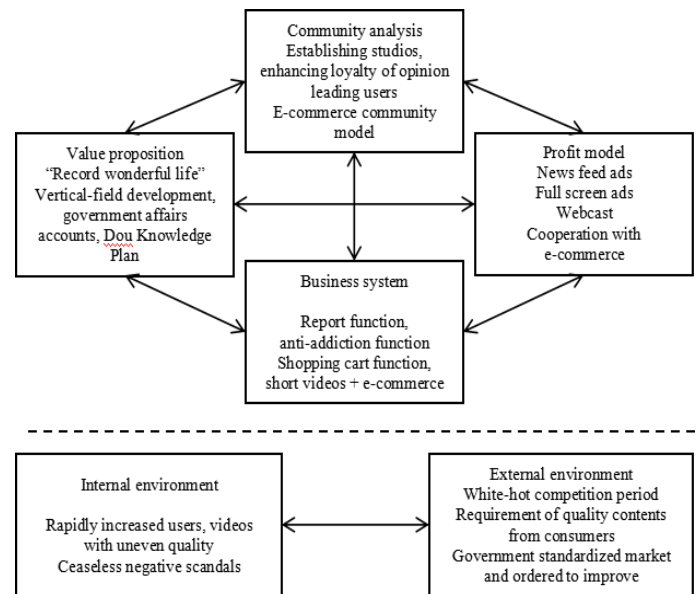


Fig.6. Analysis of Douyin's business model in the maturing stage

d) Business system: Douyin brought out report function and anti-addiction system, strengthening supervision on short videos. The model of "short video plus" emerged. Short Video Influential e-commerce enterprises uploaded more and more contents on Douyin and Kuaishou platform. Short videos of e-commerce industry continued to be popular.

e) *Profit model*: Douyin applied several methods to commercialization: full screen ads, advertising push short videos (cooperated with famous brands), webcast and cooperation with e-commerce enterprises. On 11th December 2018, Douyin officially announced that the application of shopping cart function was opened. Identity-verified accounts that had published more than 10 videos and owned at least 8000 fans were free to apply for the function.

V. CONCLUSION

This essay adopts iceberg dynamic feedback model to analysis the revolution of business model, and conducts mainly from three steps of Douyin's business model in short video industry. Step by step, Douyin innovated and developed from digging out seeds to build community to establishing fan community model and even e-commerce business model.

This essay adopts iceberg dynamic feedback model to analysis the revolution of business model, and conducts mainly from three steps of Douyin's business model in short video industry. Step by step, Douyin innovated and developed from digging out seeds to build community to establishing fan community model and even e-commerce business model.

In the early stage, Douyin focused on ploughing products and worked on exploiting functions intensively as well as built-up product keynote. With the improvement of products and boost of seminal endorsement plan, communities gradually focused on operating, communicating, adding users, establishing fan communities by endorsements, holding both domestic and overseas users, purchasing strong competitors, increasing market share and change the profit point from vague advertising revenue to dynamic revenue. In the third stage, Douyin decided to slow down its pace on expanding and put emphasis on providing high-quality videos and building harmonious communities, meanwhile, Douyin found a method which is 'short video+e-commerce' to business realization and began a e-commerce community model.



Fig.7. Driving force of developing business model of Douyin

A. *The great influence on enterprises' business mode caused by government supervision*

During Douyin's upgrade of business mode, the industry policy and government supervision are important engine. The open, pushing, encourage policy facilitate the growth of enterprises. Meanwhile, the stricter and tighter supervision also enables the change of business mode in short video industry, and normalizes the development direction. In the long run, the reinforcement of supervision directly pushes the normalization and maturity of short video industry and affects communities' development, leading the upgrade of corporate value, operation system and profit model and further prompts the reform of industry business model.

B. *Balancing commercialization and the interests of users*

Developing with communities acting as its core, the short video enterprise Douyin takes advantage of methods like cultivating seed culture and involving both online and offline platform to build communities that can bring users a feeling of belonging. However, as a commercial platform, the essential attribute of Douyin is commercial realization, and one of the fundamental contradictions in Douyin's development is the conflict between commercial realization and user experience. As long as the short video enterprise wants to maintain its survival, it must turn to commercial realization. Nevertheless, with severe industry competition and rough advertising model, inserting advertisement in short videos will largely affect user experience. Therefore, how to weigh the proportion of commercial profit and needs of user experience communities is a problem that operators should consider in communities of short video enterprise. On the basis of satisfying user needs in product function, it is recommended to reduce hard promotion and adopt soft advertising with creative content. Highlighting creative content avoids the influence on user experience caused by large homogeneous and low-quality content, as well as increases users' long-term loyalty.

C. *Stressing on involving users into value creation in the community economy era*

In community economy era, the relationship between enterprises and users have changed to a totally new one, which is close and equal together with cooperation and innovation, user owners like organized communities have more rights to speak and users now perform as leading actors. Therefore, short video enterprises ought to attach importance to interactive behaviors of users and pay attention to involving users into value creation. Thereby, users convey their needs, create new ideas, interact with communities and experience innovation while platforms provide connection for communication, platform optimization, informational feedback and constant upgrade.

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