

Research on the Development of Bilibili in the Era of Big Data

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Abstract. Bilibili was established on June 26, 2009 as a video-sharing website. Competitors include Station A and other video software. "Brand Bank" and the user value it creates bring it high-quality user resources, sales channels and game operation reputation. Bilibili provides users with differentiated content and services, and implements a differentiation strategy. In different aspects, its competitive advantages are unique. It has a wide range of businesses, making use of boutique IP and clusters, as well as ACG industrial chain layout investment. Nowadays, the network has become a part of human life. It is connecting all of society as a whole at an extremely fast speed, forming a virtual "network society". The research topic is based on the reasons why Bilibili is popular with young people in this era. Through the research on this topic, the authors learned about the operation mode of Bilibili (attracting more excellent bloggers and viewers with original content), and put forward their own unique opinions and suggestions on how to further develop Bilibili under the current Internet.

Keywords: Brand bank, subculture, multi-dimensional channels, operation reputation, differentiated content and services.

1. Introduction

With the development of mobile intelligent terminals and Internet technology, people rely more and more on mobile devices. Since the rise of short video in 2016, the early short video platform has been conducting multi-level commercialization. The marketing model has been recognized. The following year, the number of short video application users increased, and the gap with online videos narrowed, indicating that user habits changed. Short videos are used more frequently. As a second cultural platform, Bilibili has developed rapidly in recent years under the progress of the Internet and is active in the public view. It is one of the most popular new media platforms for young people.

This paper will study the advantages, disadvantages and problems of Bilibili's development. How does the unique membership system of the website require users to behave in a standard way so that users can better integrate into the community atmosphere? Most of its content is produced by the UP of real-name users of the website. The website only reviews video content. The production mode based on the user's own participation inspires the user's enthusiasm, so the website has developed into all aspects of life. In addition to publishing videos themselves, users can also publish bullet screens while watching videos. This forms a unique culture and a good ecology of the website. The overall research method is to reflect the development of the company by integrating literature. The authors hope this research can further understand the development of the company, and let the platforms in the same industry learn about the community atmosphere and bullet screen culture of Bilibili.

2. Introduction to Bilibili

2.1 Competitors

Except for Bilibili, there are also some short video platforms with a high market share. They are dominated by exclusive TV series and exclusive UP owners. The unique artistic style, design and age level are mostly higher than those of Bilibili. Tiktok has a large market group and regards the audience as new media according to big data analysis and recommended content. Auto quicker has a unique community and rich short video experience. Tencent video relies on an enterprise with rich resources, which has created an original SEE operation mode [1].

2.2 Value Created

2.2.1 Brand bank

When traffic is rampant and capital is constantly injected into the market, Bilibili has become one of the few Internet content platforms that maintain healthy growth. By Q3 2021, the average monthly active users of Station B have reached 267 million, and the average monthly active UP owners have reached 2.7 million. The total revenue reached 5.21 billion yuan, up 61% year on year [2]. The data shows that in the first quarter of 2022, Bilibili reached 294 million monthly active users, up 31% year-on-year, and mobile monthly active users grew 33% year-on-year to 276 million [3]. Advertising is becoming a new engine for the rapid growth of station B's revenue. As of Q3 2021, the advertising revenue of Station B has increased by more than 100% year-on-year for six consecutive quarters [2]. At the AD TALK marketing conference held in Shanghai, Chairman Bilibili proposed a new concept - brand bank [4]. The brand bank is composed of a commercial flow management system, an advertising system and UP main business cooperation platform Huahuo. The brand is regarded as an asset. Assets can be visible assets such as the number of videos played and the number of searches. They can also be intangible assets such as the recognition, popularity and friendliness that videos bring to the brand that can distinguish other brands [4]. Through the operation of these assets, the brand makes it appreciate and helps the brand out of the circle. As a bank, "Bilibili" helps the brand to increase its value. With the help of the video produced by UP or the community attribute of Bili Bili, the brand can be more easily spread.

2.2.2 User value

The main users of Bilibili are the young "Generation Z" [5]. The average age of Bilibili users is 22.8 years old, and about 50% of them are young people living in the first and second-tier cities [6]. They decide that Station B is a platform for people with high commercial value and a major consumer group in China in the future.

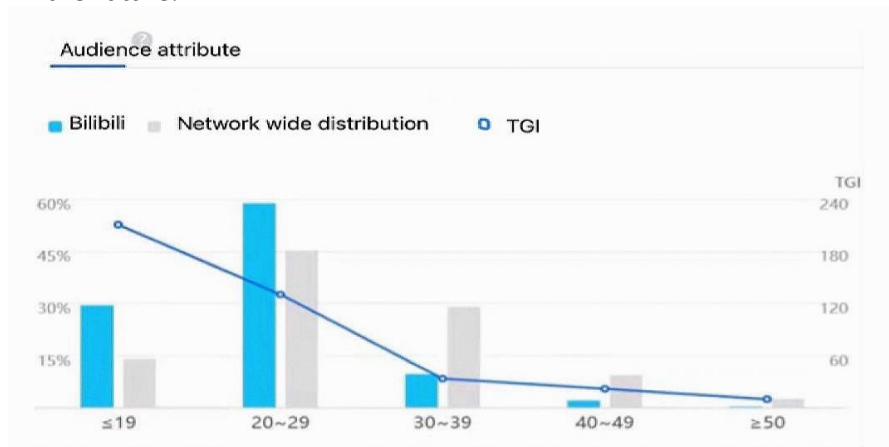


Fig. 1 Rectangular Chart of Age Distribution of Bilibili Users [7]

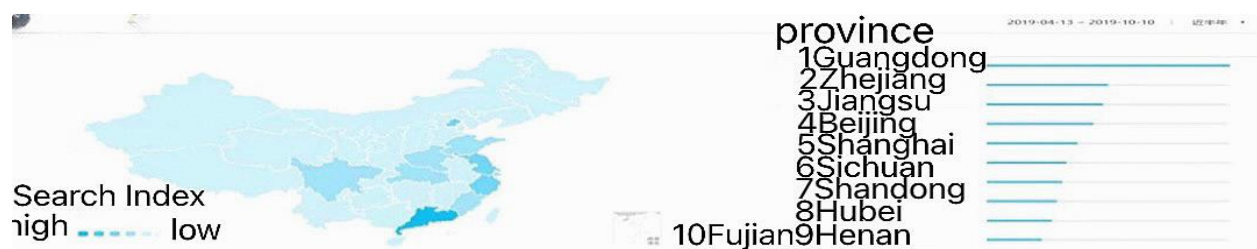


Fig. 2 Regional Distribution of Bilibili Users [7]

According to Figures 1 and 2, the key target of Bilibili is the users who are young and dynamic and the cities which have high consumption potential.

3. Bilibili Competitive Analysis - SWOT Analysis

3.1 Advantages

The majority of the content on Bilibili is produced by the actual users of the site, and the platform itself only reviews the content. The platform itself only moderates the content. This model of user participation has encouraged users to get involved, and the platform has now grown to include entertainment, games, technology, animation, lifestyle and more. In addition to posting their own videos, users can also post a "pop-up" while watching the video, which allows them to stream across the screen, creating a unique pop-up culture and giving rise to a good community ecosystem.

3.2 Disadvantages

The reasons why Bilibili can stand out among other video apps are the original content produced by users and its interactive culture, bringing a large number of people to form a small cohesive group due to the same interests.

The commercialization of the website has resulted in an influx of users of varying quality and an increasing number of video viewers. This increase in the number of users suddenly puts pressure on the platform to manage the video content and the user's curtain calls in a way that is not strictly controlled. As a result, the website is prone to inappropriate comments and video content, and the youth-themed users of Bilibili are vulnerable to the influence of bad culture.

3.3 Opportunities

In terms of profitability, Bilibili currently operates on a paid "General Assembly" membership system. However, after the launch of the paid 'Grand Membership' in 2016, the \$200+ membership fee did not gain the support of the majority of regular members. The business development model reveals that it is not an option to imitate other video sites to charge membership fees. The principle lies behind it is simple. The key factor needs to be enhanced is that whether the qualities of video content meet the expectation of users' payment point, instead of charging high membership fees. This also requires Bilibili to build on its original foundation and seek to develop new business models and profit growth points, creating a profit advantage that attracts users willing to pay for it.

3.4 Threats

Bilibili has long attracted a large number of members with its large amount of rich anime content, but the content is of varying quality. In an age where the internet influences every aspect of people's lives, there is an influx of underage users who lack the ability to distinguish between the two. It is also true that anime works that are highly offensive can have a negative psychological and aesthetic impact on minors. In addition, the prevalence of secondary culture is likely to mislead the worldview and values of underage users who are not capable of judging, and may even affect their physical and mental health. In response, B has taken a series of measures to overhaul the website's content, divert

sensitive content, and take measures to protect young people in order to create a clean and youth-friendly online environment.

4. Platform-based Company Attributes of Bilibili

4.1 Uploader

Users who create videos on Bilibili are known as uploaders. They are motivated to create videos by liking, collecting, coining and charging videos that interest them. This creates a virtuous circle, and Bilibili provides a platform for this cycle (see Figure 3). Advertisers saw the opportunity to expose their products through the UPs, so Bilibili, in conjunction with Hanafire, provided a platform for advertisers to fund the UPs. The "UPs" can take on tasks from advertisers through the Flowerfire platform and receive funding, and the advertisers' products are also exposed to demand. Fans see the products and become interested in buying them, increasing the advertisers' revenue. The unique "pop-up culture" deepens the communication between fans and "UPs" and creates a good community environment.

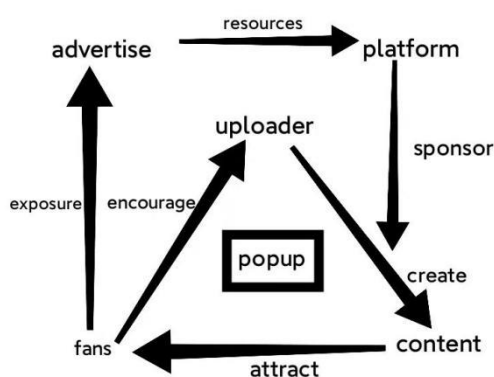


Fig. 3 Bilibili Operation Positive Feedback Circuit Diagram
(Photo credit: Original)

Each Uploader can be central, and neither can be central. Compared to the highly centralised concentration of followers of Weibo bloggers and ShakeYin celebrities, the distribution of followers of UPs on Bilibili is more fragmented, with fans not focusing on one UP but on those who are interested in them. At the same time, UP owners are also more concerned about their own identity with their followers, which makes it difficult to create a centralized-UP owner ecosystem. This has led to the creation of a lot of quality Professional User Generated content (PUGC).

4.2 Users

Compared to other video APPs, Bilibili has a large number of specialized core secondary-gen users. This is mainly due to its unique membership mechanism and black room mechanism. The membership mechanism is the registration status, and the way to obtain the registration status is that Bilibili website generates several questions based on the user's interests, and the user must answer more than a certain percentage correctly in order to gain access. By implementing the membership scheme, the quality of users is regulated to a certain extent. When the administrators find that a user's behavior violates community norms, the offending content will be removed and the offender will be banned depending on the severity of the situation. Through the above two mechanisms, most user behavior is regulated on Bilibili.

5. Bilibili's Competitive Advantage

5.1 Competitive Strategy

5.1.1 Leveraging the value to achieve multi-round commercial value

A long-lasting IP operation mechanism can leverage the huge value of IP. Take the Marvel Universe as an example, after more than 80 years it still makes superhero fans around the world swoon. With the experience of creating virtual idols and the good reputation of ACG culture, Bilibili has the opportunity to realize the whole industry chain development of ACG with IP as the core, to do fine and thorough high-quality IP, to release the value of IP and to stabilize the ACG content ecology. After that, the company will continue to realize the multiple incomes from multiple operation scenarios to maximize the value of the ACG industry chain and receive benefits from dividends [8].

5.1.2 Focusing on ACG industry chain layout investment

The ACG industry chain has three links: upstream construction, midstream distribution, and downstream derivative realization. At present, China is dwarfed by Japan and the United States in the development of each link of the ACG industry chain. The upstream mainly involves the source creation of IP, and the business model of this link mainly obtains commercialization through IP licensing. Since the success of IP is still unknown at this time, it can be said that the commercialization ability of this link is in the weakest position of the industry chain. The midstream will mainly rely on IP production of animation, live-action film and television works, games, literary works and other carriers in various channels of distribution, relying on box office, advertising, membership value-added services and other ways to achieve profit. The downstream derivatives segment bears an extremely strong commercialization realization ability, and this segment is the mainstay of the ACG industry chain in terms of sustained profitability. At present, although Beeping Bilibili's integration on the pan-entertainment industry chain is insufficient, unlike the comprehensive layout of head platforms such as iQIYI, Bilibili should lay out a unique ACG map in the ACG field in which it excels. Bilibili should try to reduce the high price of buying IP rights for secondary development, third-time development and even multiple rounds of development, and should focus on symbiosis with the stakeholders in the industry chain [9].

5.2 Profit Model

5.2.1 Game Business

The game business generates revenue mainly through the sale of virtual game props to players. Games are not only one of the core components of secondary culture, but also the most important source of revenue for Claptrap in its commercialization phase. In 2017, 2018 and 2019, 83.4%, 71.1% and 53.1% of Bilibili's revenue will come from white games, respectively [3]. The other part lies in the development of the game's peripheral should industry and become a gaming community. There are a large number of secondary mobile games in the Chinese game market, and B-site is one of the most important communities for players of these games, with most popular games and even some game companies opening official accounts at Bilibili.

5.2.2 Live Streaming Business

Bilibili's live-streaming business generates revenue by selling users virtual props that can be used to reward anchors, and these revenues need to be split between the anchors and their brokers. In addition, live streaming brings traffic and popularity to the platform, which attracts businesses to place advertisements, thereby generating advertising revenue. The live streaming business is mainly based on the Bilibili website and is in the early stages of its profit model, facing fierce competition for users and anchors.

5.2.3 Advertising Business

On the one hand, the advertising business earns revenue by placing ads; on the other hand, the platform takes a cut from the cooperation between up owners and advertisers. For example, in the Flower and Fire program launched at Bilibili, the platform takes a 50% share of the cost of invitations from merchants. In December 2017, Bilibili launched its own feed advertising 2 service, which pushes personalized advertisements to users through its website and other platforms. Beeping works with brand advertisers across a wide range of industries both domestically and internationally, including consumer retail, electronics and gaming. In addition, Bilibili will also work with up owners to provide customized programs or ad formats for brand advertisers.

Bilibili profit model can be summarized in two ways. One is to make users pay for quality content. The other is to create multicultural communities, maintain community ecology, strengthen social attributes and build profit barriers. It always pays attention to secondary culture and highlights core strengths.

5.3 Competition Method

5.3.1 Register and become a member

Bilibili does not suck in everyone as a subscriber without restraint. Only when people become full members can they truly enjoy the full range of features and privileges. The reason why the assessment of full membership constantly emphasizes the participants' pop-up literacy is that video pop-ups are topical and highly interactive. Only in this way can a good interaction be formed and a corresponding cultural atmosphere be formed. The self-selected questions involving multiple fields have a strong connection with ACG culture and B station's video content, and this mechanism can ensure that users identify with the station's culture [10].

5.3.2 Watch videos and send pop-ups

Whether people make and upload videos or not, watching videos and sending pop-ups are the core functions of Bilibili, and its biggest feature is that pop-ups are sent and can be set, including setting the type of blocking, speed, font size, color and so on. After sending a pop-up, it is marked with a box, so users can clearly identify it among the many pop-ups, which completes the complete process of sending a pop-up. The pop-up behavior is the core and characteristics. And there is a sense of ritual in behavior, through which the difference between 'circle' and other organizations can be strengthened, and the identity of self and group can be formed. Bilibili restricts the sending of pop-ups on whether or not to register as a member, which becomes one of the keys to the self-identity of users [10].

5.3.3 Production and Upload

At Bilibili, the primary source of content distribution is videos produced and uploaded by users, known as UP owners. These UP owners are the representatives of "producers and consumers". With a large number of followers, UP play a central role as opinion leaders, and play an agenda-setting function in Bilibili. The pop-up function allows UP owners to get timely feedback, so that viewers can find a sense of participation and express their opinions in a timely manner, and to a certain extent, eliminate inequality among users [10].

Table 1. Business Income of Bilibili Website in 2017-2019 [3](Unit: RMB 100 million)

Item	2017	2018	2019
Game	20.58	29.36	35.98
Advertisement	1.59	4.63	8.17
Live broadcast and value-added services	1.76	5.85	16.14
E-commerce and others	0.75	1.43	7.22

Table 2. Main Costs of Bilibili Website in 2017-2019 [4](Unit: RMB 100 million)

	2017	2018	2019
Revenue sharing	9.26	16.30	24.94
Content Cost	26.10	54.30	100.16
Labour cost	1.28	2.39	3.57
Server and bandwidth	4.69	6.19	9.20

6. Evaluation of the Current Competitive Strategy of Bilibili

From the perspective of revenue, the revenue structure of Bilibili is single and highly depends on the contribution of game business revenue to revenue. In 2017-2019, more than 50% of the operating income was obtained from games. The senior management team also realized the problem of a single income structure, so it increased investment in other commercial businesses to reduce dependence on the game business. It can be seen from the financial data that the revenue of live broadcast and value-added services, e-commerce and other businesses has increased, but the growth sustained by heavy investment cannot continue to drive revenue growth, and the growth momentum of revenue is insufficient. In addition, advertising is the mainstream business model in the online video industry. However, the advertising revenue of Bilibili in 2019 was only 817 million yuan, which is only about 10% of the advertising revenue of iQIYI in 2019. Compared with the advertising revenue of YouTube, the world's leading online video platform, which was 15 billion dollars in 2019, it can be ignored. Although the slogan "Never add patch ads" of Bilibili ensures user experience, it leads to its advertising business's ability to contribute too little to revenue. Bilibili urgently needs new revenue growth points. Compared with the narrow revenue channel of Bilibili, the cost pressure of Bilibili is too great. As shown in Tables 1 and 2, the cost of Bilibili shows an uncontrollable growth trend. From the perspective of platform operation, 469 million, 619 million and 920 million respectively will be invested in servers and bandwidth in 2017-2019 to maintain a smooth high-definition video experience. Despite the continuous de-gamification, it is still necessary to consolidate the position of the game business and pay the revenue share of game developers, copyright owners, game operation teams, game anchors and other stakeholders. This expenditure will reach 2.494 billion yuan in 2019. From the perspective of business development, in order to solve the problem of a single income structure that is highly dependent on the game business, the cost of content such as copyright and game broadcasting rights is expanding. RMB 10.016 billion will be invested in 2019 to meet the diversified content needs of users. In terms of permitted investment, the final price of the three-year exclusive broadcasting right of the League of Heroes Finals is 800 million yuan. In terms of copyright, the animation copyright of non-exclusive broadcasting is more than 3 million yuan, and the cost of exclusive broadcasting is more than twice that. The investment in these contents is huge cost pressure. Although the necessity and effect of such investment are obvious, for example, the Harry Potter films purchased by Bilibili have closely linked Harry Potter and his friends for more than ten years through the bullet screen, bringing a lot of traffic in different time and space because the same film shared feelings and memories. However, this kind of direct income cannot make up for the "burning money" behavior of direct investment in a short time. Before reaching the break-even point, it is only cost input.

7. Conclusion

Among many commercial enterprise development models, the reason why Bilibili can succeed is not only because the times create heroes, but also because of the high use and wide penetration

characteristics of Bilibili. The number of users of Bilibili has always maintained steady growth, and the number of members has also been increasing as the number of visits has increased. The proportion of members who are willing to pay is even higher. The biggest feature of the development mode of Bilibili lies in its originality. Users can share their original content with others through Bilibili. For many users, it is not only a highly ornamental platform, but more importantly, it can reflect creativity and realize self-value on the basis of a lower threshold. And Bilibili relies on this to achieve a high degree of user tightness and strong viscosity, which is a powerful weapon for Bilibili Company to compete in the market.

Although Bilibili is facing huge threats and challenges in the market competition, there is still a huge appreciation space and development opportunities based on the good development background of China. What Bilibili needs to do in the future is to continuously optimize the existing commercial development and operation mode on the basis of humanistic feelings. For example, it can add shopping carts, sell hand-made products, models and other products under the up main video, increase the turnover of the online mall, and increase the revenue source of Station B. In this way, people can better understand their psychological demands from the perspective of users, so as to continuously improve their satisfaction, and thus continuously introduce original content with higher quality

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