

# Innovative Analysis of Internet Enterprise Management Mode Under the Background of Big Data ——Taking Xiaohongshu as an Example

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## ABSTRACT

The arrival of the era of big data has injected new vitality into Internet companies. The generation and application of computer technologies such as the Internet of Things, Cloud Computing and mobile data platforms provide opportunities and possibilities for the innovation of business models of Internet companies. Taking Xiaohongshu as an example, this paper analyzes the relationship between big data and the business model innovation of Internet companies, and analyzes the business model of contemporary community e-commerce from the aspects of development overview and UGC. Analysis shows that since its establishment, Xiaohongshu has appeared in front of the public in the form of a new Internet "community", providing young people with a good platform for community communication through the way users share their lives, post notes and videos. At the same time, with the increasing demand of community users, users can buy high-quality and cheap overseas products in Xiaohongshu's self-operated platform. From communication to marketing, every stage of Xiaohongshu's development is inseparable from the promotion of big data.

**Keywords:** *Big data, Business models of Internet companies, Xiaohongshu*

## 1. INTRODUCTION

With the increasing trend of economic globalization, the development and application of information technology and mobile Internet, human society has entered the era of big data. The emergence of a large number of emerging information technologies and application models has led to an unprecedented explosive growth of global information data. The accelerated construction of relevant infrastructure, the continuous expansion of Internet platform users, and the rapid growth of transaction volume have stimulated the transformation of traditional enterprises to a certain extent, forming a new pattern of integrated development of new and old formats.

Nature (2008) launched the first big data special issue "Big Data: Science in the Petabyte Era", which discussed the big data environment, big data technology and the opportunities and challenges faced by big data. Science (2011) launched a special issue "Dealing with Data", which focused on the importance of big data and its application value in the field of scientific research. In the corporate world, McKinsey & Company (2011) released

a report on big data in "Big data: The next frontier for innovation, competition, and productivity", which for the first time clearly pointed out that big data has penetrated into various fields and industries, affecting people's lives, the development of enterprises and other aspects of society.

Lu Xingqi pointed out in China Soft Science in 2002 that knowledge capital should be regarded as the most important resource concept of enterprises in the innovation of management concept [1]. Lin Li pointed out in People's Tribune in 2017 that sharing economy enterprises urgently need to effectively innovate the existing management system in order to increase the core competitiveness of enterprises [2]. Li Nan and Ge Baoshan pointed out in Henan Social Sciences in 2019 the importance of innovative management for the sustainable development of enterprises in the context of "Internet +" [3]. Taking the "Little Red Book" platform as an example, this paper analyzes the innovation of the business model of Internet companies from the aspects of the impact of big data on Internet companies, the innovation environment of Internet companies, business models and existing problems.

## **2. ANALYSIS OF THE IMPACT OF BIG DATA ON INTERNET COMPANIES**

### ***2.1. Drive Value Proposition Innovation***

In the big data environment, for Internet companies, their value proposition is no longer just to create products or services that consumers need through market research, but to create value by meeting consumers' needs [4]. Under the new business environment conditions, various kinds of information are showing explosive growth, and big data has become the decision-making data in the operation and management activities of enterprises, which enhances the value of decision-making. With the support of big data, mining and analyzing big data will help Internet companies to accurately target consumers' needs, provide products or services that are commensurate with consumer information, reduce intermediate interference, increase continuous consumption demand, and even generate loyal consumption bring about a halo effect. Internet companies can use big data technology to mine and analyze all internal and external resources of the company, which can effectively improve the monitoring and forecasting of enterprises before, during and after the event.

### ***2.2. Drive Market Segmentation Innovation***

Through market segmentation, make full use of Internet companies to discover market opportunities, find consumer groups with similar demand trends, and increase market share. Driven by big data, enterprises collect relevant consumption data of consumers, use big data technology to mine potential consumption needs or hidden consumption needs of consumers, and stimulate consumers to consume. Big data technology drives Internet companies to efficiently and instantly identify target consumers and deliver value propositions to target audiences through precise marketing. Big data makes market segmentation a new development in corporate marketing management, which improves market competitiveness, expands market share, and increases corporate competitiveness for Internet companies.

### ***2.3. Drive Core Business Innovation***

"Internet +" is a symbol of the integration of the new generation of information technology industry and traditional industries, the optimal allocation of factor resources, and the deep integration with the real economy. The industrial transformation driven by "Internet +" will push China's future economy to a new journey under the new normal, and promote the harmonious, sustainable and healthy development of China's economy [5]. In the big data environment, the key business of Internet companies is different from the previous focus, that is, it is no longer the traditional production management,

operation management, technological innovation, after-sales service and other businesses. In the new era, the collection and data analysis of big data is the premise and foundation for Internet companies to formulate strategic management. The driving factors of business model innovation of Internet companies come from big data, not the previous successful strategic experience and tactical execution ability. Driven by data, the collection and calculation of big data has become the core business of Internet companies.

## **3. XIAOHONGSHU COMPANY BACKGROUND INTRODUCTION**

### ***3.1. Introduction to Xiaohongshu***

Since its establishment in 2013, Xiaohongshu has appeared in front of the public in the form of a new Internet "community". Through users' sharing of life, posting notes and videos, it has become a must-have "product homework" APP on young women's mobile phones [6]. Xiaohongshu accurately locates, develops, and operates this platform, combined with the changes in lifestyles in the Internet age to cater to users' preferences, and adopted innovative measures such as self-incubating KOLs, introducing celebrities, and combining online malls with notes, so that the platform has maintained stable development, and occupied a certain market share.

In September 2015, Premier Li Keqiang inspected the Zhengzhou Bonded Warehouse of Xiaohongshu, affirmed the unique e-commerce model of Xiaohongshu and said, "I hope you will become an innovative enterprise in the forefront of the country in this field"; On December 24, 2017, Xiaohongshu Mall was awarded the "China Brand Award" representing China's consumer technology industry by People's Daily; on May 31, 2018, Xiaohongshu announced that it has completed the fourth round of financing of nearly 300 million US dollars, and the company's valuation exceeds 3 billion US dollars. This financing not only brought together giants such as Alibaba Group and Tencent, but also new and old investors such as GSR Ventures, GGVCAPITAL, Tiantu Capital, and Zhen Fund.

### ***3.2. The Development History of Xiaohongshu***

The development of Xiaohongshu is divided into three stages: market exploration period, rapid growth period and rapid development period. In the first stage, the original intention of Xiaohongshu was only to share travel and shopping. At this time, it has accumulated a large number of excellent reputation and has a good community atmosphere. It has laid a good foundation for the next e-commerce platform.

In the second stage, Xiaohongshu started to be its own e-commerce "welfare agency", because a lot of notes and

user experience have been accumulated before, the Xiaohongshu team has excellent decision-making and execution capabilities, then the market share of Xiaohongshu has ushered in a period of rapid growth. In the Spring Festival of 2019, Xiaohongshu also carried out a series of activities by sponsoring the Spring Festival Gala of various David TVs, which made the number of active users increase by more than 300% compared with the same period last year, reaching a new historical high.

In the third stage, Xiaohongshu mainly started from the expansion of third-party platforms and merchants, enriching product categories with the highest efficiency, speeding up the update speed, lowering the sales unit price, reducing operating costs and easing the pressure of team building. After the number of users of Xiaohongshu exceeded 150 million in 2018, Xiaohongshu began to explore the commercialization of the community. On the one hand, we must build our own content ecology, maintain the atmosphere of the community, protect the interests of users, and maximize user value as much as possible; On the other hand, it is necessary to realize its own profits as much as possible, reach a period of rapid development, and realize the best combined income of the "community + e-commerce" business model [7].

## **4. ANALYSIS OF THE INNOVATION ENVIRONMENT**

### **4.1. Policy Environment**

The policy environment of Internet platform enterprises is a series of policies and regulations formulated by the state to promote the innovation and development of Internet platform enterprises. In 2011, the Interim Provisions on the Administration of Internet Culture was issued, which created a high-quality policy environment for Internet platform enterprises; In 2015 The State Council issued the Guidance of the State Council on Actively Promoting the 'Internet +' Action, which put forward a series of opinions on encouraging innovation and supporting the steady development of Internet enterprises, and accelerated the in-depth integration and innovative development of the Internet and various fields . In recent years, big data has become a powerful tool to promote the transformation and upgrading of Internet companies, and the Internet and big data are inseparable. For example, on the Xiaohongshu platform, users can independently post notes to share their life, and users can also like, comment, bookmark, and share with each other, and meet new online friends with the same hobbies and interests. At the same time, the platform combines the copywriting of the notes to tag the notes, and the content is divided into locations, brands, commodities, movies, etc. If users want to know something, they only need to search for keywords to find relevant notes. It not only enriches the content of notes, but also makes the user's browsing experience more

specific, detailed, true and comprehensive. Xiaohongshu closely applies the thinking of "Internet +" and uses its platform characteristics to collect big data, store big data, analyze big data and apply big data. Provide more comprehensive and accurate services for users' shopping decisions.

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### **4.2. Resources and Environment**

The resource environment of Internet companies includes corporate talents, technical information, management innovation information and other resources, which are essential elements for the steady innovation and development of enterprises. The innovation and development of Internet companies are inextricably linked with internal human resources and information resources. Internet companies under the integration of big data need more professional and experienced talents, and the reserve of knowledge is as important as innovative thinking. Taking Xiaohongshu as an example, it implements commercial transformation, actively attracts talents, and regulates management. It selects potential KOLs (Key Opinion Leaders, referred to as KOLs, which in marketing refers to having more and more accurate product information, and for People who are accepted or trusted by the relevant groups and have a greater influence on the purchase behavior of the group) to give certain resources and cultivate high-quality KOLs in the growth period, which not only ensures the professionalism of the personnel, but also enhances the trust of the public.

### **4.3. Market Environment**

The market environment is an external factor that affects the innovation and development of Internet companies, bringing opportunities and threats to the companies. For Internet companies, competition and cooperation are inseparable. At this stage, win-win cooperation has become a rule that must be followed for the innovation and development of Internet platform enterprises. Taking Xiaohongshu as an example, at the beginning of Xiaohongshu's establishment, "product + community" was the core, but in recent years, Xiaohongshu has carried out in-depth cooperation with Taobao and Tmall, realizing the connection between Taobao product reviews and Xiaohongshu's UGC (User Generate Content) content. And began to formally get involved in overseas shopping, opened offline stores and

built its own brand, accepting the investment of Alibaba Group with its own e-commerce attributes is a correct choice [8]. Therefore, in-depth cooperation between Internet companies is a necessary means of enterprise development, and cooperation between enterprises will promote the win-win situation of domestic Internet companies, thereby creating certain value.

#### **4.4. Technical Environment**

The technical environment of Internet platform enterprises is the key force for enterprise development and a collection of new technologies and new materials to improve the competitiveness of enterprises. The Internet platform generates a large amount of data, and uses cloud computing and other means to analyze the needs of users and the market, conduct data analysis in a targeted manner, and launch products that meet the constantly updated needs of current users. Xiaohongshu uses related technologies such as big data, intelligence and cloud computing to launch artificial intelligence systems, data structure algorithm technology, logistics supply chain, etc. The utilization method is more and more complete, which provides a great possibility for its further role in the Internet industry chain.

### **5. BUSINESS MODEL ANALYSIS**

A business model is a tool, approach and method for an enterprise to survive, occupy a competitive advantage, compete for consumers, realize profits and create value under the market mechanism. According to the different research questions, scholars have elaborated the concept of business model. Amit (2001) believes that a business model is an operation mode in which upstream suppliers, enterprises, consumers, potential entrants and substitutes create value in competition [9]. Stewart and Zhao Q (2000) believed that business model is the foundation of enterprise profit model, and analyzed the influencing factors of business model from the perspective of strategic management, including stakeholders, competitive advantages, mission, vision and goals, environmental analysis, Innovation ability, corporate governance, entrepreneurial leadership, etc., expounds the definition of business model, and points out the strategic structure and direction of business model [10].

With its unique community form, Xiaohongshu has a high level of innovation in notes and community operations, and has won a high popularity value for its innovation, especially among young women.

#### **5.1.1 Relying on Big Data and Labeling to Create a Community**

On the notes, Xiaohongshu divides the platform modules into attention, discovery, and nearby, and recommends the content of user notes. Xiaohongshu has always used strong community building as a barrier, even

after the launch of the e-commerce platform, the superiority of the community cannot be ignored. Xiaohongshu starts with recommending good things, and displays the story and connotation of the goods in front of the users. Users can browse, comment, and like to achieve interactive communication, and connect people through things to form groups. These groups have different tags in the community. If users want to know something, they only need to search for the tag keywords to find related notes. At the same time, through big data and tagging, similar notes are recommended to users under the viewing notes, and people find their own groups according to their interests. Shari SC Shang, Ya - Ling Wu, and Yi -Jhen Sie (2016) proposed consumer resonance, and when this resonance expands with repeated executions, users' purchase intentions can be strongly changed [11]. Interesting community activities can increase activity, increase user stickiness, allow users to spontaneously form a "bathing" living habit, and stimulate potential consumer demand.

#### **5.2. Diverting Notes and Pushing Them Through Big Data**

Set up management accounts to divert notes: According to the community type and different note content, set up different management accounts. By filtering notes, recommending notes, and setting tags, users can recommend notes and improve notes. Classification specialization. At the same time, hashtags will be launched according to the trend to encourage users to post relevant notes and discuss topics.

#### **5.3. Using Big Data to Establish a New Media Communication Matrix for Different Customers**

The detonation of Xiaohongshu is inseparable from the publicity of social media. Xiaohongshu mainly uses WeChat, Weibo, media advertising and other forms. Accurate advertisement placement in variety shows, as well as inviting celebrities to settle in Xiaohongshu, bring a new wave of interaction and dissemination to Xiaohongshu. Using big data to deeply gain insight into the interest points of target users, and follow the clues, conduct precise marketing through social media, which not only saves costs, but also obtains the greatest communication benefits [12].

#### **5.4. Use the Internet to Create an Interactive Platform and Incubate KOLs**

First of all, Xiaohongshu has created a dialogue platform between consumers and consumers and between consumers and enterprises (brands). Through the UGC model, consumers can better understand the brand, and enterprises can clearly grasp the needs of consumers, and adjust the layout of products according to the trends of

consumers [13]. Traditional marketing thinks from the standpoint of the enterprise and is one-way dominated by the enterprise. The marketing model in the Internet environment is the opposite, focusing on user thinking and based on the interactive environment of consumer participation. When consumers join in the product innovation and R&D process, the marketing design will truly fit the target group, and the product will truly become a consumer product.

Secondly, incubate internal KOLs on their own: in selecting high-quality KOLs, most of them are college students who are studying in colleges and have just graduated. They have the same target audience as their users, so it is easier to attract fans with the same thinking and win attention [14]. Xiaohongshu has successfully incubated high-quality KOLs, consolidating a certain user base for the platform and expanding its foundation in the market of huge consumption power.

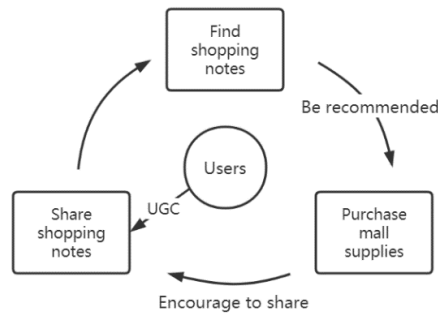


Figure 1: The operation model of Xiaohongshu

## 6. PROBLEMS IN THE BUSINESS MODEL

### 6.1. False Content and Selling Fake Behaviors

Xiaohongshu excels in community building. Users share their life by uploading notes, which also leads to a problem with the Xiaohongshu APP: the quality of the content is not up to standard. The Xiaohongshu APP does not supervise the content of some notes effectively, which has led to the spread of many false information. Many unscrupulous merchants or Internet celebrities share some products with goods on the Xiaohongshu APP to attract people to buy, but the quality of them varies, and there is a phenomenon of shoddy products. The e-commerce platform of Xiaohongshu is not perfect, and many brands cannot guarantee the authenticity of the products.

### 6.2. Implanted Ads Are Crowded, and the User Experience Is Reduced

Xiaohongshu is a social e-commerce APP that integrates shopping, sharing, and short videos. From recommending products to user purchases, users buy and then share them with more users, forming a virtuous cycle based on user sharing. Xiaohongshu's UGC development

path is unique. However, Xiaohongshu, which relies on KOLs to attract users' consumption, due to the imperfect screening mechanism, the quality of KOLs is uneven, and the situation of directly contacting merchants across the Xiaohongshu platform is also repeated repeatedly, and a large number of implanted advertisements appear in the notes. , which makes the search result advertisements in the Xiaohongshu APP crowded, which seriously affects the user experience.

### 6.3. Customer Information Was Leaked

In June 2017, Xiaohongshu was exposed to a large-scale leak of user information, and 50 users were defrauded of nearly 880,000 yuan. Since then, there have also been media reports that some users were deceived by 50,000 yuan for buying clothes on Xiaohongshu, and four lending platforms were opened. According to the data, Xiaohongshu has significantly increased consumer complaints due to information leakage, accounting for 46.49% of the complaints, making it the cross-border e-commerce company with the largest proportion of complaints.

### 6.4. Intensifying Market Competition

In addition to the fierce cross-border e-commerce competition from Taobao, Pinduoduo, JD.com, and Vipshop, Xiaohongshu is also facing the situation of other social networking sites coveting social e-commerce. Weibo launched the "Weibo Showcase" based on the products carried by the Weibo showcase. It mainly forms a complete e-commerce system through self-operated Internet celebrity e-commerce and content shopping guides, with Taobao as the carrier, and has been fully opened; "Grass Planting Community" on NetEase Koala; WeChat's "Good Things Circle"; JD.com's "Discovery"; Douyin launched "Douyin Store" and "Douyin Show Window"; Kuaishou launched "Kuaishou Store" . New and old rivals have cultivated their own content-growing communities, and the competition for Xiaohongshu is quite fierce.

## 7. COPING STRATEGIES

### 7.1. Pay Attention to Content and Product Quality, and the Platform Will Increase Screening Efforts

In response to the problems of fake notes and spam content in the Xiaohongshu APP: first, Xiaohongshu should increase the review of the content of the notes published, strengthen the management of the content, and encourage users to report inappropriate content; secondly, Xiaohongshu can motivate users both materially and spiritually, urge users to actively publish high-quality posts, and improve the content level of Xiaohongshu. However, since any information can be spread in the

community and affect the user experience, Xiaohongshu needs to strengthen data analysis, so that the information obtained by users on the platform is true Reliable and enhance the user's sense of trust. If the false content problem is controlled at the source, the follow-up product quality problem can be better solved. Only by giving full play to the advantages of word-of-mouth marketing, establishing a good image of the Xiaohongshu APP, and enhancing the stickiness of users, can it attract more consumers and achieve sustainable and healthy development.

## **7.2. Improve the Service System of Xiaohongshu**

The development of e-commerce platform is inseparable from the support of a perfect service system. The Xiaohongshu e-commerce platform should enhance the sustainable consumption of consumers by improving the logistics and service system. In terms of logistics, products on the Xiaohongshu platform have certain additional charges (shipping charges), which can only be reduced or exempted by purchasing a certain amount. When consumers make product purchase decisions, shipping charges are also within their consideration. Compared with platforms such as JD.com and Taobao, Xiaohongshu should increase its cooperation with third-party platforms in the logistics industry, reduce product surcharges, and better compete in the market. In terms of service system, Xiaohongshu should establish a good after-sales service system, and good after-sales service will increase the recognition of consumers.

## **8. CONCLUSIONS**

To sum up, the overall economic situation of Internet companies taking Xiaohongshu as an example is relatively good at this stage. However, with the advancement of technology and changes in user needs, the innovation and development of Internet companies need to face more and more challenges and threats. In order to create a fertile soil suitable for the innovation and development of Internet companies, the government, enterprises, and the public need to make efforts. Enterprises should continue to promote technological innovation and informatization, actively integrate into the big data environment, and use technological innovation and information resources to improve their competitiveness. The rise of Internet platform enterprises has promoted the development of the global economy. The new generation of artificial intelligence and "Internet +" have become the inevitable trend of future development. The "big data era" is unstoppable and will inevitably become more mature in the near future field.

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