Science and Technology New Media Operation Models and Their Implications for Library Mobile Knowledge Service Platforms (Postprint)

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Abstract

Purpose/Significance: Science and technology new media represents the integration of scientific and technological information services with new media communication methods. Its innovations in content, mode, and carrier provide valuable references for various knowledge service platforms.

Methods/Process: This study selected the top 10 science and technology new media platforms by influence from the "2016 China Science and Technology New Media Ranking." We systematically reviewed and analyzed their content sources, communication channels, implementation of online and offline activities, and profit models to reveal the characteristics and existing problems of science and technology new media.

Results/Conclusion: Library mobile knowledge service platforms should draw upon the experience of science and technology new media, attract more users to participate in content construction while ensuring content quality, establish a tripartite platform integrating information dissemination, online services, and offline activities, and cultivate their own market competitiveness.

Full Text

Preamble

Technology New Media Operation Mode and Its Enlightenment to Library Mobile Knowledge Service Platforms

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Abstract

[**Purpose/Significance**] Technology new media represent the convergence of scientific information services and new media communication methods. Their innovations in content, model, and carrier are worthy of reference for various knowledge service platforms. [**Method/Process**] This study selected the top 10 technology new media from the "2016 China Technology New Media Ranking" based on influence, and systematically analyzed their content sources, communication channels, online and offline activities, and profit models to reveal their characteristics and existing problems. [**Result/Conclusion**] Library mobile knowledge service platforms should learn from technology new media by attracting more users to participate in content creation while ensuring content quality, forming a tripartite platform of information dissemination, online services, and offline activities to establish their own market competitiveness.

Keywords: technology new media; mobile knowledge service; knowledge service platform; library
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Introduction

Technology new media are platforms that disseminate scientific and technological information through new media channels. Emerging in the new media era, they skillfully combine high-quality scientific content with socialized communication methods, providing users with a rapid information acquisition platform. The origin of technology new media is widely considered to be TechCrunch, the influential technology blog founded in 2005 by Michael Arrington, known as the "Mr. WEB 2.0," which was renowned for being the first to publish major industry news. Currently, most technology new media in China are influenced by TechCrunch, utilizing simple web architecture models to focus on hot topics and commentary in innovation and entrepreneurship, thereby generating substantial web traffic and user attention.

Around 2010, the first wave of domestic technology new media emerged in China, represented by 36Kr, Leiphone, and GeekPark, marking the first entrepreneurial peak of technology new media[1]. These platforms primarily focused on translating and compiling the latest foreign news, establishing a content production model centered on compilation. In recent years, with the rapid development of mobile internet, numerous innovation and entrepreneurship projects have emerged in China, with increasing participation from enterprises and individuals, providing abundant material for technology new media coverage. Meanwhile, users have become dissatisfied with simply translated foreign information, giving rise to a second wave of technology new media. Represented by plat-

forms such as TMTpost and Huxiu, these new media shifted from translating foreign news to focusing on domestic innovation and entrepreneurship projects, with content becoming more specialized and segmented, targeting specific niches rather than broadly covering the entire technology field.

Technology new media are essentially new types of knowledge service platforms oriented toward specific domains. How do they operate, and what lessons and insights can they offer for library-related knowledge service platforms? To address these questions, this study selected the top 10 technology new media from the "2016 China Technology New Media Ranking" as analytical subjects, conducting comprehensive investigations and analyses of their content sources, communication channels, online and offline activities, and profit models. The aim was to identify the characteristics and existing problems of technology new media, providing reference for library mobile knowledge service platforms such as "China Science News."

1 Selection Criteria for Technology New Media Analysis Samples

In November 2016, China.com.cn released the "2016 China Technology New Media Ranking," which summarized the rankings of technology new media for that year. The ranking was based on monthly average data from Baidu Index (September 27 - October 26, 2016). Baidu Index values represent actual daily search volumes by users, making them an effective metric for measuring brand influence. This list categorized technology new media into B-end (business, i.e., commercial users) and C-end (client, i.e., individual or family users). This study selected the top 10 B-end technology new media for analysis (see Table 1).

Table 1: Objective Influence Ranking of China Technology New Media[2]

Technology New Media	Founding Year	Baidu Index	Description
36Kr[3]	-	2,468	Technology innovation and entrepreneurship ecosystem service platform

Technology New Media	Founding Year	Baidu Index	Description
Huxiu[4]	-	1,881	User-participable business information and opinion exchange platform
VentureBeat[5]	-	1,763	China's leading comprehensive entrepreneurship service platform
Leiphone[6]	-	-	China's earliest internet technology media focusing on AI and smart hardware
iHeima[7]	-	-	Innovative entrepreneurship incubator integrating training, PR promotion, and social networking

Technology New Media	Founding Year	Baidu Index	Description
TMTpost[8]	-	-	China's first TMT (digital new media industry) corporate talent community media, integrating information exchange, IT technology information, and new media
Yiou[9]	-	-	Service platform focusing on integration of new technologies and concepts with various industries, with a mission to facilitate industrial innovation and upgrading
Im2Maker[10]	-	-	Technology new media with original content and high-quality events as core, featuring online-offline interaction

Technology New Media	Founding Year	Baidu Index	Description
GeekPark[11]	-	-	Base camp for technology innovators, gathering excellent product reports, review videos, and high-quality offline events
KanChai[12]	-	-	Cutting-edge technology new media with global perspective, seeking new business value between technology and humanities, insisting on interpreting technology from a humanistic perspective

2 Content Sources of Technology New Media

Through analysis of the aforementioned ten technology new media platforms, their content sources can be broadly categorized into five types: translating foreign websites, original editorial teams, integrating and processing other media resources, inviting industry authors, and user contributions (see Table 2).

2.1 Translating Foreign Websites

Most early technology new media in China began by translating foreign technology information. For instance, the established platform 36Kr primarily compiled content from the TechCrunch blog in its early days—a practice that was not well-regarded in the blogosphere at the time, yet precisely provided 36Kr with a first-mover advantage[13]. By compiling foreign technology blog posts and disseminating the latest industry information to domestic users, 36Kr accumulated

a stable readership and established its brand identity.

2.2 Original Editorial Teams

As user expectations for technology new media platforms increased, users desired to capture dynamics of relevant industries at home and abroad in real-time to seize business opportunities. New media relying solely on translated foreign blog content increasingly failed to meet user demands. Consequently, all ten technology new media platforms established their own original editorial teams to rapidly report on relevant industry information, providing readers with professionally insightful perspectives and interpretations that form distinctive content.

2.3 Integrating and Processing Other Media Resources

Technology new media platforms require rapid daily updates of the latest developments in their fields. Relying exclusively on original editor-generated content would be insufficient to produce the necessary volume of articles. Therefore, these platforms must browse other websites, Weibo accounts, and WeChat public accounts to gather daily news about industries and products. Through integration and processing, technology new media transform lengthy industry news into short, easily digestible briefs, strategically pushing them during morning and evening rush hours. This approach allows readers to efficiently utilize fragmented time to browse the most valuable essential information from relevant industries while enabling platforms to publish substantial volumes of content.

2.4 Inviting Industry Authors

Some platforms regularly invite respected academic experts, industry elites, or well-known bloggers with independent perspectives to become special authors, writing articles and expressing views on current hot topics. For example, Huxiu collects opinion leaders and experts from various business sub-sectors, identifying their areas of expertise and personal blog addresses, and seizes every opportunity to invite them to create columns on Huxiu[14].

2.5 User Contributions

In addition to leveraging columns and articles from media professionals, some technology new media have begun tapping into user power by opening "contribution" channels on their websites to solicit articles from all users. Users are no longer passive information recipients but active content creators. This production model not only generates rich content but also significantly reduces content acquisition and editing costs, compensating for staffing shortages at technology new media websites. Most platforms lack fixed compensation mechanisms; Huxiu, for instance, selects 2-3 articles weekly based on user clicks and comment data, awarding author fees ranging from a minimum of 300 yuan to a maximum of 2,300 yuan[15].

3 Communication Channels of Technology New Media

In addition to web portals, all ten technology new media platforms have expanded multiple mobile-oriented communication channels (see Table 3), including mobile apps, WeChat public accounts, and Weibo.

3.1 Mobile Apps

Six of the technology new media platforms have developed mobile apps, allowing users to read content, comment, and participate in community interactions via smartphones, thereby enhancing user experience. Notably, 36Kr, which ranks first, has developed four different mobile apps tailored to users' varying venture capital needs.

3.2 WeChat Public Accounts

Due to the high development and promotion costs of mobile apps, an increasing number of new media projects have abandoned independent app development in favor of platforms like WeChat public accounts. All ten technology new media platforms have established WeChat public accounts to collect subscribers, pushing curated premium information to users' mobile devices through the WeChat platform to achieve communication and interaction.

3.3 Weibo

Among the nine platforms with official Weibo accounts, fewer use Tencent Weibo compared to Sina Weibo, with significant disparities in follower counts. This may be attributed to Sina Weibo's mature technology, early development, and comprehensive features, which influence technology enthusiasts' choices. By pushing newly published content through Weibo, technology new media have attracted substantial followings from technology fans. Four platforms have surpassed one million followers on Sina Weibo, with Leiphone and TMTpost reaching 2.87 million and 2.83 million followers respectively—remarkable figures on Sina Weibo, which primarily features entertainment and lifestyle content.

4 Online and Offline Activities of Technology New Media

Technology new media emphasize the development of both online and offline activities, combining online brand promotion with offline experiential activities to continuously enhance social influence and expand commercial chains. On one hand, they utilize various online channels to provide users with premium reading, online courses, venture capital services, and other activities to promote their brands and expand influence (see Table 4). On the other hand, technology new media recognize the importance of face-to-face services and actively organize various high-quality offline activities aligned with their positioning (see Table 5), such as technology conferences, competitions, and entrepreneur lectures to

attract more potential users, increase website traffic, and boost popularity. Simultaneously, they generate revenue by selling tickets to offline activities. Nine platforms in the ranking have launched various types of offline activities, all possessing mature operational models and strong content planning capabilities. Events such as 36Kr Open Day, Heima Competition, and GeekPark Innovation Conference have become branded activities in China's technology media sector, attracting increasing attention from innovators and entrepreneurs, with some events even becoming sold-out successes.

5 Profit Models of Technology New Media

Technology new media are dedicated to sharing scientific and technological information, gradually evolving from individual operations to corporate management. According to general internet product principles, if profitability cannot be achieved within three years, the likelihood of sustainability is minimal[16]. For long-term development, technology new media require continuous economic support, making the creation of sustainable profit models crucial for maintaining market position. The existing profit models of technology new media can be analyzed and categorized into the following aspects:

5.1 Soft Advertising

Traditional media's primary profit source is advertising fees, but this approach is overly direct, easily revealing advertising intent to users, and excessive placement often triggers psychological resistance. Recognizing these drawbacks, technology new media skillfully integrate promotional content with articles, creating "soft articles" as opposed to hard advertising. Huxiu, for instance, collaborates with companies such as Samsung, SAIC, Jaguar, and Hisense to launch a "Sponsored Content" module where these enterprises sponsor the publication of technology articles, industry reports, or event promotions.

5.2 Online Courses

Leveraging brand influence, technology new media invite renowned industry leaders to share experiences and insights with innovators and entrepreneurs, with users paying to access content of interest. Following the principle of "paying for quality content," 36Kr established the "KaiKr" module, crafting precisely targeted content for internet professionals to help them find valuable information in a noisy information environment.

5.3 Enterprise Services

In addition to providing enterprises with the latest industry information, technology new media offer related peripheral services. For example, 36Kr pioneered the "online media + financing platform + offline events" model in China, providing a platform for enterprises and individuals seeking venture capital to showcase projects and secure funding, charging intermediary fees. TMTpost has built

an industry database, selling industry analysis reports or knowledge products through paid subscriptions, forming an independent commercial profit chain.

5.4 Offline Events

The earliest technology new media, TechCrunch, generated revenue by hosting offline technology conferences and charging admission fees. Domestic technology new media have learned from this foreign model, organizing diverse offline activities including various competitions, industry summits, technology conferences, and salons. 36Kr Open Day, as a representative offline event for technology media, has generated tremendous industry influence and enabled 36Kr to achieve break-even through this approach.

5.5 Membership Services

By paying a certain membership fee, users can enjoy VIP services. Technology new media attract users willing to pay for premium services through this model. Customized reading, personalized services, free access to knowledge products, and complimentary use of data analysis tools have become attractive features of technology new media membership systems.

6 Characteristics of Technology New Media

6.1 Specialized Media Positioning with Focus on Segmented Fields

For innovation-driven enterprises that heavily rely on cutting-edge information, selecting valuable and timely content from vast information oceans is critically important. Unlike general portals, technology new media are positioned within the technology domain while maintaining their own specialized niches. Such segmented positioning helps platforms quickly identify appropriate content from massive information flows, improving efficiency, while precisely targeting users to push valuable content. Among the ranking, three media founded in 2013 or later (Yiou, Im2Maker, and KanChai) differ from established platforms like 36Kr and Huxiu by narrowing their focus to concentrate on specific niches where they excel: Yiou focuses on the O2O sector, Im2Maker concentrates on smart hardware, and KanChai centers on exploring the logical relationship between technology and business. Focusing on more refined professional fields may become a future development trend in the technology new media industry.

6.2 Diversified Communication Subjects with Mass Participation and Interaction

In traditional technology media, users were merely information recipients while content editors served as sole producers with absolute dominance. In the internet era, technology new media have broken this model. Users no longer passively accept information but desire direct communication with media, convenient interaction with other users, and even hope to become “media” themselves by par-

ticipating in information publication and dissemination. Technology new media encourage mass content contribution and website participation while establishing virtual communities where readers can freely discuss content of interest, like or dislike articles, and communicate directly with authors, fostering a healthy and orderly social atmosphere.

6.3 Personalized Service Methods with Precise Content Subscription

Although each website has its own positioning and primary focus, filtering and publishing content according to user needs, individual user requirements still vary. Therefore, utilizing big data technology to collect and analyze user reading behavior, building big data-based information resource platforms, and providing personalized customized information for each user has become essential for technology new media. Additionally, all ten technology new media platforms provide relevant tags for published articles, enabling readers to retrieve relevant resources by entering keywords according to their search needs, satisfying personalized demands while avoiding information overload issues inherent to the internet era.

7 Existing Problems in Technology New Media

7.1 Content Duplication

Due to their late start and relatively fixed user base, domestic technology new media currently focus on attracting more users through their own resources for free reading and access, without considering how to monetize existing resources. However, without continuous capital, technology new media cannot progress. How to increase profits while maintaining user numbers has become an essential problem for future development.

Technology new media republish important technology news from WeChat, Weibo, and other portals daily. Some editors resort to opportunistic practices, making minor modifications to this content, with some even changing only the titles and leads. This results in many technology new media websites having different wording but essentially the same meaning. Users browsing different websites waste considerable time and energy reading duplicate content. Technology new media should establish their own brand characteristics with distinctive features, focusing their efforts on topic selection and content interpretation.

7.2 Intellectual Property Ambiguity

Every original report on technology new media represents the author's perspective. Different authors' positions inevitably lead to conclusions colored by personal sentiment, sometimes making fairness difficult to judge. Some criticisms targeting specific enterprises or industries lack factual investigation. If relevant stakeholders pursue liability, who should bear responsibility? Clearly, most technology new media have not recognized the importance of disclaimers. Addition-

ally, some websites lack copyright statements for compiled foreign technology blogs and republished content. Technology new media should fully recognize the importance of intellectual property rights, protecting their own interests from infringement while respecting others' intellectual achievements and avoiding legal disputes.

7.3 Uneven Article Quality

Traditional media's greatest advantage lies in their professional content production teams. Traditional media editors rely on intellectual labor to discover valuable content and review materials before publication, ensuring quality control. However, to capture the most valuable cutting-edge information, technology new media have simplified their content production processes, eliminating the multi-layered review processes of traditional media. This may result in inability to guarantee authority and professionalism. Therefore, while leveraging technological advantages, new media should retain traditional media's content strengths, compensating for the lack of gatekeepers to ensure content quality and forming a "filtered UGC (user-generated content)" production model.

8 Implications for Library Mobile Knowledge Service Platforms

In recent years, some libraries have actively launched various mobile knowledge service platforms to provide users with convenient access to knowledge services. These platforms align with the development philosophy of technology new media, with the "China Science News" APP launched by the National Science Library, Chinese Academy of Sciences being the most typical example. "China Science News" is a mobile internet-based knowledge service platform that integrates the Chinese Academy of Sciences' massive digital scientific literature resources on mobile terminals and incorporates important scientific and technological progress reports as well as other scientific intelligence products and knowledge information services, supporting various user types including researchers, graduate students, and science and technology management personnel to read scientific literature and technology news anytime and anywhere via mobile phones[17].

In the future, "China Science News" aims to transform traditional knowledge services toward "active push," "big data analytics," and "innovation-driven" development tracks. This requires attracting more users to participate in interactions and jointly accomplish the production, supply, and sharing of high-level knowledge products and services; it needs to consolidate and expand the user base to benefit broader research communities and enthusiasts with more extensive mobile technology resources and services. Therefore, "China Science News" can learn from technology new media operation models: in terms of content editing and production, in addition to integrating scientific resources and reporting expert columns, it can introduce a "filtered UGC" content production model

to encourage user participation in technology news dissemination; online and offline activity formats can be diversified, tightly integrating online information dissemination with offline events, regularly transforming modules like “Expert Perspectives” and “Research Reports” into offline lectures or salons for face-to-face interaction among experts, researchers, and students; while meeting the needs of its own institution’s users, it should also launch more practical and effective value-added service products in terms of technology and service formats to create distinctive profit models.

9 Conclusion

This study investigated and analyzed technology new media from four aspects: content sources, communication channels, online and offline activities, and profit models. It identified that technology new media exhibit characteristics of professionalism, interactivity, and personalization, while also facing problems such as content duplication, intellectual property ambiguity, and uneven article quality. Facing the continuous emergence of technology new media brands, library mobile knowledge service platforms such as “China Science News” should draw reference and lessons, attracting more users to participate in content creation while ensuring content quality, forming a tripartite platform of information dissemination, online services, and offline activities, launching more practical and effective value-added service products, and establishing their own market competitiveness.

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Wang Junyu: Literature research, paper writing;
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Wang Chun: Participated in paper discussion and provided revision suggestions;
Wu Hao: Participated in paper discussion and provided revision suggestions.

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Abstract: [Purpose/significance] Technology new media are the products of the combination of the technological information and new media communication tools. The innovation of contents, models and carriers are worth all kinds of knowledge service platforms' reference. [Method/process] This paper selected the top ten new media of "Chinese Technology New Media Ranking in 2016" and combed the contents, communication channels, online and offline activities and profit models of the top ten media to analyze the characteristics of technology new media and the existing problems. [Result/conclusion] Library mobile knowledge service platforms should learn from these technology new media. In the future, library mobile knowledge service platforms should attract more users to take part in contributing knowledge on the basis of ensuring the content quality and form a model of information dissemination, online services and offline activities to make their own market competitiveness.

Keywords: technology new media mobile knowledge service knowledge service platform library