Research on the Audiobook Phenomenon in the Internet Era: Postprint

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Abstract

Fueled by the widespread adoption of the Internet and mobile terminals, audiobooks in the 21st century have entered the mobile terminal era following the audiobook website period, with platform-user interaction increasingly becoming a significant characteristic of audiobooks in the Internet age. Leveraging characteristics such as companionship, fragmentation, and entertainment that align with fast-paced society, audiobooks have rapidly attracted a substantial user base. Alongside their swift development, audiobooks have also engendered a series of issues; however, the application of emerging technologies including blockchain and artificial intelligence will offer enhanced possibilities for addressing these challenges.

Full Text

Preamble

Abstract: With the proliferation of the internet and mobile terminals, audiobooks have entered the mobile era in the 21st century, following the earlier period of audiobook websites. Platform-user interaction has increasingly become a defining feature of audiobooks in the internet age. Characterized by their companionability, fragmentation, and entertainment value—attributes well-suited to fast-paced modern society—audiobooks have rapidly attracted a large user base. However, alongside this rapid growth, audiobooks have also generated a series of problems. The application of emerging technologies such as blockchain and artificial intelligence may offer new solutions to these challenges.

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Driven by the development of the internet and the application of mobile terminals in the 21st century, audiobooks have evolved from traditional storytelling arts into a new listening model carried by online platforms. Accompanied by a surge of capital investment, the market has expanded continuously and its audience has grown rapidly, making audiobooks an important component of China' s cultural industry. This paper examines audiobooks as its research subject, briefly 梳理 their developmental trajectory in the internet era, analyzes the problems that have emerged during their growth, and attempts to grasp their evolution while proposing solutions.

Originally designed to assist blind people in reading, audiobooks first emerged in the United States in the 1930s. Later, propelled by network technology development and policy support during the era of fragmented screen-reading, their audience continuously broadened, and audiobooks gradually became a new industry oriented toward all demographic groups. Academia has yet to reach a precise, unified definition, though most domestic scholars tend to accept the definition by the American Audio Publishers Association: "a recording product containing no less than 51% textual content, reproduced and packaged in the form of cassette tapes, compact discs, or purely digital files for sale." Based on the current state of audiobook development, we define audiobooks as: audio-visual products that use diverse carriers including traditional radio, cassette tapes, and modern mobile digital terminals; draw upon varied books as their foundation; feature platform- or user-uploaded audio as their main content; are supplemented by multiple media; and can be downloaded or listened to online by users.

In the internet era, audiobooks have undergone two distinct periods: the audiobook website period and the mobile terminal period.

1. Technological Innovation—The Audiobook Website Period

Marshall McLuhan proposed that "the medium is the message."Media influences the way we think and understand. From print newspapers that rely on vision, to radio stations that depend on hearing, to four-dimensional VR presentations, technology engages multiple sensory modes and enables greater development of our senses. Technological innovation has provided new carriers for audiobooks. Premised on the use and promotion of the internet, technology updated the traditional face-to-face "output-decoding" model of listening to books. During this period, audiobooks entered their initial development stage, primarily disseminated through PC-based internet connectivity.

In 2003, Beijing Hongda Yitai Company invested in and launched China' s first audiobook website, "Tingshu.com." In the same year, Beijing Xinhua Jindian

Audio-Visual Co., Ltd. established "Yousheng Duwu Wang" to build a Chinese audiobook brand. After the State Council issued "Suggestions on Actively Developing China' s Audiobooks" in 2005, various audiobook websites sprang up like bamboo shoots after rain. In 2006, Beijing Longjie Wangda Culture & Media Co., Ltd. created the brand "Yilu Ting Tianxia,"alongside other platforms such as "Tianfang Tingshu Wang" and "Jiujiu Tingshu Wang."

2. User Orientation—The Mobile Terminal Period

From the Web 1.0 to Web 2.0 era, the relationship between people and content evolved into one between people and people. Its core characteristic is user-generated content, user orientation, mobilizing user participation, moving from one-way to interactive communication, and finally achieving co-creation. Users are no longer passive recipients but can also be information feedback providers and producers. The popularization of the internet and mobile terminals has propelled audiobooks into a high-speed development stage. During this period, both PC internet and mobile internet coexisted, greatly expanding the audiobook audience. Users transformed from passive consumers to producers, and audiobook recording formats diversified.

In 2011, China Telecom partnered with China National Radio to launch the "Tianyi Reading" audiobook service. China Unicom established the "Wo Reading" audiobook channel, and China Mobile launched the "Mobile Reading" audiobook channel, with monthly visits exceeding 2 million. After 2012, listening apps such as Ximalaya FM, Lazy Audiobooks, and Qingting FM were launched successively. In 2013, China Telecom' s Tianyi Reading Company launched "Yangqi Tingshu," marking audiobooks' entry into the mobile internet era.

With the rise of live streaming platforms, audiobooks developed a format where anchors broadcast live and interact intimately with fans. In 2013, Shanda Literature announced a strategic cooperation agreement with YY Voice to integrate high-quality resources and create "beautiful women reading"live programs. Some WeChat official accounts, such as "Ten O' Clock Reading," also began using audio to push information to the public. Today, numerous official accounts adopt multi-media integration methods, equipping articles with pictures and audio recitations. Audiobook platforms continue to broaden across multiple fields.

According to the "2017 Digital Reading White Paper" released in April 2018, the audiobook reading market reached 4.06 billion yuan in 2017, a year-on-year increase of 39.7%. Comprehensive knowledge payment services delivered through audio media contributed approximately 1 billion yuan in revenue, becoming a driving force for market growth. The audiobook listening rate among adult nationals was 22.8%, up 5.8% from 2016. Among audiobook app users, Lazy Audiobooks, Yangqi Tingshu, and Kugou Tingshu ranked top three with average daily launches of 4.5 times, 4.4 times, and 3.7 times respectively.

2.2 Characteristics

Corresponding to the rapid development momentum of audiobooks are characteristics such as companionability, fragmentation, entertainment, and interactivity.

2.2.1 Companionability

The popularization of mobile terminals represented by smartphones and PCs enables users to connect to the internet beyond temporal and spatial boundaries without constraints. Mobile terminals have become extensions of people's bodies and indispensable parts of daily life. Audiobooks disseminated through these terminals have ridden this wave, allowing people to listen anytime and anywhere.

2.2.2 Fragmentation

High-intensity, fast-paced modern life has fragmented people' s lives, drastically reducing available blocks of uninterrupted time. This fragmentation of time has made reading increasingly piecemeal. Audiobooks align perfectly with this characteristic; their convenient listening methods and unrestricted scenarios have won widespread favor among office workers and other groups.

2.2.3 Entertainment

Fragmented time has made reading piecemeal and superficial. People are increasingly unwilling to spend time contemplating deep, thoughtful content, preferring instead cultural fast food that delivers effective information in the shortest time possible. Audiobook content is not limited to classic works; crosstalk sketches, history and finance, online literature, and more can all become listening material. Similarly, audiobook narration is not restricted to professional anchors; anyone can participate in recording. This adaptation to the entertainment needs of the shallow reading era has led many users to treat audiobooks as a means of entertainment and leisure after work.

2.2.4 Interactivity

The development and improvement of audiobooks have transformed the initial simple production-dissemination model of "platform-digital signal-user." Technology empowerment means users are no longer passive recipients. Numerous platforms have established user feedback mechanisms, enabling users to interact with anchors through comments, ratings, and other methods, offering suggestions to improve audio quality. Users are both producers and consumers.

2.3 Existing Problems

Propelled by mobile terminals and the internet, audiobooks have entered a high-speed development stage, yet their development model remains exploratory.

While focusing on their rapid growth, we should not overlook a series of existing problems.

2.3.1 Uneven Content Quality

Producing high-quality audio requires professional broadcasters, equipment, sound effects, and other resources. However, audiobook platforms widely adopt UGC (User-Generated Content) production, ceding audio production rights to users. Due to low recording thresholds, equipment differences, and lack of unified production processes and standards, audiobook product quality is uneven, content homogenization is serious, and industry competitiveness is lacking.

2.3.2 Rampant Copyright Infringement

Currently, audiobook platforms widely use UGC content production models. The open sharing mechanism of online platforms, combined with recorders' lack of copyright awareness, has led many users to record works into audio and upload them to audiobook platforms without original authors' consent, triggering a series of copyright disputes. China has not yet issued relevant laws and regulations on audio copyright, and audiobook copyright handling methods have not been established. This institutional deficiency makes it difficult for platforms to tackle infringement according to standardized criteria.

2.3.3 Information Cocoon Constraints

The development of big data and artificial intelligence technology has made algorithmic recommendation an important method for audiobook information push. Currently, audiobook platforms mainly use two algorithmic recommendation methods: one pushes options related to users' past browsing and clicking content that they haven' t encountered before; the other is a pan-model correlation push, where algorithms make assumptions based on what people users like or similar people are interested in, and make associated recommendations.

Platforms oriented by user preferences provide personalized customized information pushes, resulting in repetitive and isolated content that confines users' vision to their areas of interest. This may lead to solidified user cognition and create an information cocoon effect, which is detrimental to users' comprehensive development and violates the original intention of audiobook reading to broaden horizons and acquire diverse knowledge.

2.3.4 Unformed Knowledge Payment Habits

Knowledge payment refers to consumption centered on knowledge, mainly referring to audiobook platforms constructing a consumption scenario based on users' subjective perception, knowledge professionalism, and interestingness to attract or guide users to pay for knowledge acquisition. Currently, knowledge

payment has been basically popularized on audiobook platforms. Regarding users' purposes for knowledge payment, there are generally two: one is need, such as knowledge acquisition and social needs; the other is experience, such as the professionalism and interestingness of audiobooks and the convenience of payment.

For a long time, the behavioral habit of free electronic resource acquisition and the imperfect consumption scenarios created by audiobook platforms have meant users have not yet formed knowledge payment habits. In 2016, national per capita audiobook spending was only 6.81 yuan. However, overall, the proportion of user knowledge payment is increasing year by year, and the scale of knowledge payment will further expand.

2.4 Future Outlook

With high-quality audio content as the axis and science and technology plus mobile terminals as the two wings, audiobooks have entered a high-speed development stage in the internet era, with continuously expanding market scale. Although a series of problems remain to be solved during development, with the arrival of the knowledge payment era, we can foresee that audiobooks'proportion in the cultural industry will continue to increase.

In response to current problems and development profiles, we propose the following suggestions for future audiobook development models.

2.4.1 Differentiated Operation, Content is King

By 2018, the audiobook market scale reached 4.63 billion yuan, with a user base of 173 million and an average of 1.14 audiobook apps installed per person. However, this growth rate is mismatched with uneven content and serious homogenization. In the new media environment of capital competition, audiobook platforms must identify their positioning, deeply cultivate vertical fields, establish a "content is king" consciousness, and strengthen the development of high-quality content and supervision of audio quality. Many platforms have adopted a "PGC+UGC+PUGC" model, using PGC to guarantee quality, UGC to attract traffic, and focusing on developing the PUGC model. PUGC should be the dominant force for developing high-quality programs, creating brand characteristics, and enhancing user stickiness. For example, Qingting FM focuses on developing community and fan economy, Ximalaya FM uses audiobooks and course content as its main profit model, while Litchi FM takes a niche route of "small fresh, small literary" style.

2.4.2 Diversified Marketing to Achieve Commercial Monetization

Currently, audiobooks' profit models remain exploratory, mainly consisting of advertising, user payment, and series hardware product development.

The information cocoon effect refers to users only paying attention to what they choose and what pleases them, gradually confining themselves in a "cocoon" like silkworms.

Advertising combines traditional models with audio-embedded ads (brand naming and information flow ads). New soft-embedded advertising reduces user aversion, while platforms use big data and AI technology for precise personalized pushes based on user behavior, achieving accurate marketing and reducing advertising costs.

User payment includes two parts: platform services and audiobook derivative products. First, platforms profit from paid listening and VIP purchases. Second, fan economy applications use celebrities' high-quality program content and unique personal charm to attract a group of loyal users, then leverage star appeal to sell audiobook products.

Series hardware product development means audiobooks can use an "O2O+audiobook product" format to penetrate other product fields. For example, in 2016, NetEase launched "The Great Hall Roaming Guide," creating a new product combining audiobooks and games.

Audiobook marketing methods are increasingly diversified. Beyond traditional advertising profit models, platforms should actively explore diversified models, connect related fields for commercial promotion, and achieve commercial monetization.

2.4.3 Introducing Blockchain Technology to Address Copyright Issues

Blockchain technology is a new internet technology—a novel distributed infrastructure and computing paradigm built on peer-to-peer (P2P) networks that uses chain data structures to verify and store data, distributed node consensus algorithms to generate and update data, cryptography to ensure data transmission and access security, and smart contracts composed of automated script code to program and operate data.

Applying blockchain technology to the media field offers new possibilities for solving audiobook copyright issues. Based on its decentralized distributed structure, blockchain is deployed on every node of the P2P network, with each node possessing a complete database that preserves all data information. As long as data in one node changes, other nodes will detect it. This characteristic enables complete traceability of audiobook product production, with permanent content records allowing precise tracking of audiobook copyright and complete recording of copyright transfer processes.

Additionally, audiobook platforms can use blockchain technology to register a unique block identity for each audio-producing user, recording all identity information on the blockchain. The platform and other users then score this identity and publish it network-wide. Users with low scores have their accounts

directly closed, increasing default costs and strengthening platform punishment to rectify copyright issues.

2.4.4 Innovating Information Distribution Mechanisms with Multi-Model Integration

Currently, audiobook platforms mainly use three information distribution forms: editorial selection, user recommendation, and algorithmic push. Traditional editorial selection refers to editors screening, organizing, typesetting, and distributing information based on professional knowledge. User recommendation refers to users independently subscribing to and following content based on their preferences and attributes, and establishing their own social networks by adding friends to obtain information. Algorithmic push is the personalized push method based on big data and AI technology explained earlier and will not be repeated here. This is currently the mainstream method for audiobook platform information distribution.

The integration of multiple push methods enables precise positioning of user needs, reduces push of useless information, and satisfies users' personalized and differentiated demands. Human-centered information distribution gives readers the right to independently choose information, facilitating efficient push of audiobook information.

2.4.5 Strengthening Market Supervision and Improving Laws and Regulations

Currently, relevant industry rules for audiobooks are not yet sound, leading to chaotic management of many issues. Audiobook apps fake data to attract capital and seize market share, causing vicious competition.

As the saying goes, "with rules, one can make a circle." Audiobook governance requires joint efforts from platforms and government. On one hand, the government should accelerate the improvement of relevant laws and regulations and impose necessary administrative intervention on audiobooks. On the other hand, audiobook platforms should actively conduct self-correction, and industry giants should strengthen their sense of responsibility to promote the formulation of internal industry rules.

From the Web 1.0 to Web 3.0 era, the rapid upgrading of internet media has influenced audiobook transformation. Interaction between audiobook platforms and users has become the theme of the internet era.

On one hand, audiobooks leverage the popularization of mobile terminals, using audiobook websites, apps, and self-media platforms as cornerstones to greatly expand their audience. The internet era is a human-centered era, and the future development of audiobooks must inevitably be oriented toward user needs and experiences, providing users with high-quality content and good consumption scenarios to encourage them to pay for knowledge, thereby enhancing user stick-

iness and seizing market share. Based on this, audiobooks use intelligent new technologies as carriers to reconstruct their organizational methods and product forms. For example, distributed blockchain technology can achieve complete copyright tracking, effectively reducing infringement; intelligent algorithmic recommendations depict user portraits for precise personalized pushes, improving audiobook product subscriptions; the gradual promotion of 5G technology provides greater information capacity for audiobook platforms, enabling faster user audio uploads; the application of AR and VR technologies in audiobooks can achieve interaction, enhance immersion, create three-dimensional and dynamic visual scenes on flat, static audiobooks, and realize full-media linkage.

On the other hand, the decentralized internet structure returns the power of audiobook dissemination to users. Users can not only orient themselves by their own needs, selectively using different types of audiobook products to satisfy their information acquisition, entertainment, and social interaction needs, but also exert subjective initiative to provide feedback on audiobook products and dominate content generation, using user clicks and traffic to counterbalance platforms and compel them to improve their products.

The audiobook market has just started. Only by seizing development opportunities, centering on users, and relying on technological innovation and high-quality content can enterprises achieve industry success.

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Note: Figure translations are in progress. See original paper for figures.