

Observations and Reflections on Online Reading Services During the National Epidemic Prevention and Control Period: Postprint

Authors: Mao Yihong

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Abstract

[Purpose/Significance] To summarize and analyze the initiatives of domestic online reading services during the nationwide COVID-19 pandemic prevention and control period, and to provide recommendations for the development of online reading services in China. [Method/Process] By utilizing platforms such as WeChat, Weibo, and websites to conduct online tracking of the initiatives undertaken by reading service institutions including publishers and libraries in providing online reading services during the epidemic prevention and control period, their performance is summarized and analyzed. [Results/Conclusion] Amidst the pandemic, all types of reading service institutions have shifted their service focus to online services. According to the diverse reading needs of various readers, they have intensified system safeguarding efforts, urgently published epidemic prevention publications, and expanded the dissemination of quality online reading materials. The overall service effectiveness was satisfactory, but certain issues were also exposed. It is necessary to convert pressure into impetus, further improve the online reading service system, and enhance comprehensive reading service capabilities.

Full Text

Observation and Reflection on Online Reading Services During the National COVID-19 Prevention and Control Period

Author: Mao Yihong

Affiliation: College of Information Science and Technology, Nanjing Agricultural University, Nanjing 210095

Abstract

[Purpose/Significance] This paper summarizes and analyzes the measures of domestic online reading services during the national COVID-19 prevention and control period, providing recommendations for the development of online reading services in China. **[Method/Process]** Using platforms such as WeChat, Weibo, and websites, we tracked online the initiatives of reading service institutions including publishing houses and libraries during the epidemic prevention period, and summarized and analyzed their performance. **[Result/Conclusion]** In the face of the major epidemic, all types of reading service institutions have shifted their service focus to online services, and according to the diverse reading needs of various readers, they have increased system support, urgently published epidemic prevention publications, and expanded the dissemination of high-quality online reading materials. The overall service performance has been good, but some problems have also been exposed. We need to turn pressure into motivation to further improve the online reading service system and enhance comprehensive reading service capabilities.

Keywords: online reading; digital reading; reading service; reading promotion; emergency service

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Before the 2020 Spring Festival, the sudden outbreak of COVID-19 plunged the entire nation into a special period. Faced with this unexpected epidemic, all sectors of society actively adapted and fought hard against the virus, while the general public responded to the national call and stayed at home in isolation. In accordance with epidemic prevention requirements that restricted population movement, reading service institutions such as publishing houses and libraries urgently closed their on-site services and expanded online services to provide online reading services for frontline epidemic prevention institutions, their professional staff, and citizens staying at home.

Faced with this sudden epidemic, can reading service institutions respond quickly? Can they proactively adapt and expand online reading services to improve service effectiveness when faced with rapidly growing online reading demands from various users within a short period? Clearly, the sudden epidemic represents both a challenge and a test of the reading service system and its capabilities. However, it is also an opportunity for reading service institutions to turn crisis into opportunity, intensify online reading services, increase coverage, innovate service methods, and enhance brand influence. Using platforms such as WeChat, Weibo, and websites, the author tracked online the initiatives of reading service institutions including publishing houses and libraries during the epidemic prevention period and conducted some summary and analysis.

2. Measures and Characteristics of Online Reading Services During the Epidemic Prevention Period

For many years, the publishing and library sectors have invested substantial resources in developing online reading services, and have now basically established an online service system, including websites, apps, WeChat, Weibo, TikTok, mini-programs, and other online service platforms, along with a considerable scale of digital reading resources, basically meeting the online reading needs of the general public. The sudden epidemic serves as a test and examination of China's online reading service system and its service capabilities. Various reading service institutions promptly activated emergency management, shifted their service focus to online services, and flexibly responded to the diverse reading needs of different users by increasing system support, urgently publishing epidemic prevention publications, and expanding the dissemination of high-quality online reading materials. Overall, they performed excellently and received positive social feedback.

2.1 Rapid Response and Proactive Emergency Management and Services

Emergency management refers to the activities conducted by governments and other public institutions during the processes of pre-event prevention, incident response, mid-event handling, and post-event recovery from emergencies. Through establishing necessary response mechanisms and implementing a series of measures including prevention and emergency preparedness, monitoring and early warning, emergency response and rescue, and recovery and reconstruction, these activities protect public life and property safety and promote safe social development [1]. After the outbreak, the national publishing and library communities responded quickly and acted proactively in accordance with the decisions and deployments of the Party Central Committee and the State Council, doing substantial work in urgently publishing epidemic prevention and control publications and expanding the dissemination of high-quality online content.

2.1.1 Timely Closure of On-site Services and Strengthening of Online Services Starting from January 23, 2020, all provinces across the country successively activated Level I responses to major public health emergencies, with various departments continuously upgrading epidemic prevention measures. Publishing houses, libraries, and other reading service institutions closed their on-site services, increased online services, and strengthened technical support. On January 23, Dangdang Cloud Reading launched a campaign to distribute 1 million free VIP monthly cards, and from January 28, initiated a campaign offering all e-books for free reading. Around January 28, digital academic publishing institutions such as Superstar, VIP, Wanfang Data, and CNKI announced the free opening of their digital resources. On January 31, the Xinhua Bookstore Online Bookstore, in collaboration with the “Xuexi Qianguo”

platform, launched a “Special Moment, Free Reading” campaign, offering over 800 quality books for free reading.

The Ministry of Culture and Tourism and the National Cultural Heritage Administration jointly issued a notice on epidemic prevention and control on January 22. Public libraries across the country responded immediately, closing their doors and canceling cultural activities between January 24 and 28. University libraries also closed successively in late January. While closing, libraries shifted their service focus to online services, promptly issuing announcements to introduce online service methods and access pathways. To help readers without library cards, libraries such as the Guangdong Provincial Sun Yat-sen Library, Guangzhou Library, and Heilongjiang Provincial Library opened online card registration or digital resource reading cards.

After officially entering the Spring Festival holiday on January 24, readers’ online usage time grew rapidly, bringing high-traffic concurrency pressure to online reading service systems. Reading service institutions such as libraries promptly arranged technical staff to strengthen system support. Some university libraries upgraded and expanded VPN capacity to increase off-campus access channels for readers, or cooperated with digital resource suppliers, or registered to join the CARS (CERNET Authentication and Resource Sharing Infrastructure) alliance, allowing readers to directly use digital resources from off-campus.

2.1.2 Urgently Launching Epidemic Prevention Themed Reading Services, Free to the Public (1) For Frontline Professionals. After the outbreak, to fully support medical workers and related researchers in their epidemic prevention and control work, the publishing and library communities urgently launched epidemic prevention themed reading services. Wanfang Database took the lead in launching a “COVID-19 Special Topic” digital resource. Libraries such as Nanjing Library, Tianjin Library, Henan Provincial Library, and Zhongshan Memorial Library, together with resource suppliers like Wanfang Data, launched “COVID-19 Special Topic” digital resources for medical workers, collecting domestic and international literature related to the epidemic. The Intellectual Property Publishing House developed and opened a “COVID-19 Patent Intelligence Special Database” to the whole society free of charge, and from February 3, released daily in special topic format a batch of selected patent information related to fighting the novel coronavirus. The People’s Court Publishing House’s Faxin platform launched a free epidemic prevention legal handbook (e-book) and epidemic prevention legal database. China Times Economic Publishing House opened the “Audit and Finance Regulations Pocket Guide” mini-program, providing columns on epidemic prevention and charity-related laws and regulations. Social Sciences Academic Press opened its 皮书 database for free, while launching themed reading on “‘SARS’ Experience” and “Emergency Management of Public Health Emergencies.” Some foreign academic publishers also made contributions. Springer Nature selected its latest published papers on coronavirus research, as well as related comments and

book chapters, and made them freely accessible; Wiley announced the opening of all coronavirus-related papers; Elsevier established a free novel coronavirus resource center.

(2) For the General Public. In the epidemic prevention period, “information epidemics” such as rumors and false information about virus transmission could harm public health, making it crucial to use trustworthy communication channels for timely and reliable information exchange with the public. After the outbreak, many publishing houses and libraries used online platforms to promptly carry out epidemic prevention information dissemination and guidance, assisting government epidemic prevention departments in spreading accurate information to the public and alleviating people’s concerns. China Science and Technology Press continuously pushed epidemic-related rumor-refuting content on its WeChat public account “Science Rumor-Refuting Platform,” while jointly aggregating real-time big data on the epidemic with the “Baidu” app, and launching a pneumonia confirmed patient travel query tool with People’s Daily client and 360 big data; Clarivate Analytics made BioWorld’s novel coronavirus-related special news reports freely accessible; the China Audio-Video and Digital Publishing Association issued an “Initiative for the Digital Reading Industry to Fight the ‘Epidemic’” to all member units on January 31, calling on the entire industry to actively respond to the current epidemic prevention work, strengthen positive publicity of epidemic prevention knowledge through information platforms, and effectively guide public opinion on epidemic-related knowledge learning; Superstar Group launched a special public welfare activity on epidemic prevention, through which readers could obtain the latest information on the epidemic and related prevention measures, and keep abreast of developments. Libraries across the country also contributed: Guangzhou Library carefully edited a series of “Scientific Epidemic Prevention, Smashing Rumors” albums based on relevant media materials; Fujian Provincial Library launched original epidemic prevention jingles created by librarians; Nanning Library released scientific epidemic prevention messages and online promotional tweets in reader groups; Zhengzhou Library strengthened publicity and guidance for citizens and readers through WeChat public accounts; Guangzhou Library designed games to help readers identify true and false epidemic information, with some excellent librarians providing online tips for readers on “how to identify fake news when facing the epidemic.”

Epidemic Prevention Knowledge Reading Services. To help the public understand COVID-19, the publishing community organized experts to urgently publish digital reading materials on prevention and treatment, providing online reading services. On January 23, Guangdong Science and Technology Press published the nation’s first book on fighting the epidemic, “Novel Coronavirus Infection Protection,” with its electronic, audio, and video versions all free of charge; Hubei Science and Technology Press also launched a network trial version of the “Novel Coronavirus Pneumonia Prevention Handbook” on the same day. Subsequently, more publishing institutions such as Zhejiang Education Publishing House, Jiangsu Phoenix Science and Technology Press, and

People's Medical Publishing House urgently published e-books and audiobooks on novel coronavirus protection. On January 31, the Xinhua Bookstore Online Bookstore, in collaboration with the "Xuexi Qiangguo" platform, launched a "Special Moment, Free Reading" campaign, offering seven epidemic protection books for free. Internet publishing institutions also took action: Chinese Online launched epidemic-themed books on its platforms on January 25; QQ Reading APP opened a free reading zone of "Scientific Protection, Overcoming Difficulties Together" on January 26, launching over 20 prevention and control books; WeChat Reading launched a free science book list for national users. From February 1 to 29, Dangdang Cloud Reading, in cooperation with the China Audio-Video and Digital Publishing Association and the Digital Reading Committee, launched a free reading special topic on the "Epidemic" War Victory, including multiple virus infection protection manual books. The National Knowledge Service Platform issued an "Initiative to Publishing Units from the National Knowledge Resource Service Center to Build a Solid Fortress for Defeating the Epidemic with Knowledge Services," calling on publishing units to leverage their professional advantages to sort out, create, and provide more high-quality knowledge content related to epidemic prevention for the general public. Superstar Group launched quiz activities and epidemic prevention public welfare courses. Dedao E-books collaborated with multiple domestic publishing houses to establish reading zones, providing free epidemic protection knowledge.

The library community also launched epidemic prevention themed reading services. Capital Library promoted virus prevention knowledge and recommended novel coronavirus infection protection books through its WeChat account; Guangdong Provincial Sun Yat-sen Library, Dongguan Library, Zhongshan Memorial Library, Ganzhou Library, and others released free public courses on novel coronavirus epidemic prevention safety; Zhengzhou Library compiled and published novel coronavirus pneumonia prevention and control knowledge via WeChat; Weifang Library and Maoming Library opened online epidemic prevention columns to recommend e-books; Nanjing University of Aeronautics and Astronautics Library recommended anti-epidemic themed books online; Nanjing University Library launched a micro book list on disease, science, and humanity; jointly initiated by the Children and Youth Reading Promotion Committee of the Library Society of China, the Classic Reading Promotion Committee of the Library Society of China, Zhongshan Memorial Library, and Cangzhou Library, together with Library News and China Children and Juvenile Publishing House, a national youth online epidemic prevention activity—"Plants vs. Zombies: Epidemic Prevention Knowledge Challenge" was launched, aiming to teach practical epidemic prevention knowledge through the beloved Plants vs. Zombies characters and epidemic prevention stories.

Psychological Care and Encouragement. As the epidemic continued to develop, panic and anxiety spread throughout society. To help the public cope with the epidemic and provide psychological protection, East China Normal University Press, Shaanxi Normal University Press, Sichuan Science and Technology Press, and others successively launched psychological protection handbooks,

opening them free online to the public and actively guiding the public to fight the epidemic with rational attitudes and healthy mindsets. The library community provided psychological care and encouragement to the public mainly through recommending themed books and holding themed activities. Fujian Provincial Library launched a WeChat reading mini-program with 10 “psychological” epidemic prevention album books; Shanghai Library held online events such as a “Unity is Strength to Fight the Epidemic” online cartoon exhibition and an “Epidemic Prevention, We’re in This Together” illustration collection activity; Liaoning Provincial Library held voice collection activities using mini-programs.

2.2 Turning Crisis into Opportunity, Actively Expanding Comprehensive Online Reading Public Welfare Services

The sudden epidemic is a test for the entire society, but also an opportunity for social adaptation and transformation. During the epidemic, due to restrictions on going out, the public erupted with extraordinary demand for online services, promoting the development of online entertainment, business, office, and learning services. Many reading service institutions, while urgently launching online epidemic prevention themed reading services, actively expanded comprehensive online reading public welfare services, guiding the public to “attack the virus with reading,” greatly enhancing the influence of reading service brands.

2.2.1 Actively Carrying Out Online Reading Public Welfare Services to Meet Diverse Reader Needs (1) Promptly Launching Comprehensive Online Reading Public Welfare Services. Under the epidemic, to meet the home reading needs of readers across society, reading service institutions such as publishing houses and libraries increased online services for e-books, databases, knowledge bases, and lecture audio/videos, opening them free to the public (for a limited time). Numerous publishing houses and online reading service platforms opened their digital publications free of charge at the end of January and early February. From January 28, Dangdang Cloud Reading initiated a campaign offering all e-books for free reading, and digital academic publishing institutions such as Wanfang Data, Superstar, VIP, and CNKI announced the free opening of their digital resources. Fifty-seven digital reading platforms and digital publishing enterprises across the country responded positively to the initiative issued by the China Audio-Video and Digital Publishing Association, creating and launching a “Free Reading, Overcoming Difficulties Together, Achieving Victory in the ‘Epidemic’ War” reading zone for national users to read for free. On January 31, the Xinhua Bookstore Online Bookstore, in collaboration with the “Xuexi Qiangguo” platform, launched a “Special Moment, Free Reading” campaign. JD Reading APP provided readers with free 30-day VIP benefits and established a free audiobook zone. Dedao E-books collaborated with multiple domestic publishing houses to establish free reading zones. The “Kezhi” knowledge service platform released a “War Epidemic” zone, with 53 domestic publishers providing free e-books through the “Kezhi” platform.

Libraries across the country also increased comprehensive online reading services, instantly introducing paths and methods for online and mobile reading through various online platforms. The National Library immediately released official latest guides, introducing various online services. Public libraries in Beijing jointly responded to the initiative of the Beijing Library Association, integrating the city's public library digital cultural service platforms and public service accounts, launching through multiple channels the "Guide to Digital Cultural Resources of Beijing Public Libraries," making it convenient for citizens to access rich digital resources. Capital Library integrated its internal resources to guide readers in using digital resources. Guangdong Provincial Sun Yat-sen Library, together with database resource providers, opened the "Primary and Secondary School Digital Library (PC Special Edition)" free to primary and secondary school students, teachers, and parents. During the epidemic prevention and control period, Tsinghua University Library formulated various off-campus access guides and remote solutions, releasing dozens of resource service usage information through the library homepage and WeChat public account, and compiling and publishing a special webpage on "Library Resource Service Guide During Epidemic Prevention and Control." Peking University Library specially launched a one-hour lecture online graphic concise version, sorting out academic resources, explaining search techniques, and introducing software applications. Many libraries made full use of new media platforms to continuously release relevant online service announcements and online reading activities. The National Library successively launched a series of tweets titled "Online Databases Accompany You in the 'Epidemic' War to the End"; Fujian Provincial Library organized young backbone staff to actively write recommendation articles and mobilized all librarians to release digital service information through various channels, with daily updates on the library's WeChat and Weibo accounts. Starting from mid-February, to further advocate that libraries at all levels innovate reading promotion services through the internet, the Library Society of China, together with corporate council units and relevant digital resource providers, pushed various types of learning resources free to members, library workers, and readers through the "Reading Alliance · Digital Shared Reading Service Platform." As of March 5, the "Reading Alliance Platform" had covered 1,259 libraries nationwide.

(2) Actively Carrying Out Themed Reading Services for Specific Needs. The epidemic outbreak coincided with the Spring Festival holiday, and libraries across the country launched online New Year cultural themed services. The National Library and many public libraries provided readers with digital New Year gift packages, including New Year customs exhibitions, 50 selected couplets, 100 sessions of National Library open class resources, and classic ancient book PDFs. When the school opening date approached, to respond to the call of "suspending classes without stopping learning," publishing institutions and libraries launched online education reading services. Phoenix Publishing Media Group developed and produced electronic textbooks for primary and secondary schools, providing them free to approximately 40 million teachers

and students nationwide; Zhejiang Education Publishing Group launched 212 textbooks and teaching supplementary e-books; the Xinhua Bookstore Head Office and Xinhua Guocai Education Network Technology Co., Ltd., together with famous textbook publishing institutions, displayed 118 high-quality electronic textbooks, digital resources, and online services to teachers and students through the “National University and College Textbook Online Selection System (Love Teaching Materials).” To help university teachers and students utilize literature, starting from February 20, the China Academic Humanities and Social Sciences Library (CASHL) launched free CASHL document delivery services.

2.2.2 Actively Carrying Out Online Themed Reading Activities To cope with the epidemic and encourage the public to stay at home with peace of mind, reading service institutions across the country actively held online themed reading activities. On February 3, the “15 Famous Experts and Teachers · 15-Day Reading Plan” online learning public welfare service activity, hosted by the Jiangsu Provincial Department of Education, the Jiangsu Provincial Committee of the Communist Youth League, and Phoenix Publishing Media Group, officially launched, inviting famous experts and teachers to serve as reading leaders to conduct a 15-day online reading activity with 14 million primary, secondary, and university students in Jiangsu Province, pushing content daily through websites, clients, Weibo, WeChat, and other multi-platforms. After its launch, the response was strong, and the reading plan was expanded to “15+5.” Superstar Group launched public welfare activities such as “Listening to Books Check-in,” “Classic Co-reading,” and “Mobile Museum.” The “Listening to Books Check-in” activity from February 3 to 16 featured 14 famous teachers leading the reading of 14 classics, allowing participants to listen to one book in just 30 minutes each day. The “Classic Co-reading” activity provided 17 classic works for free reading, with readers able to check in and perform operations such as collecting, copying, sharing, web searching, excerpting, and translating. On February 22, the “Shanghai Book Fair · Power of Reading” 2020 Special Online Gathering, hosted by the Shanghai Municipal Committee of the CPC Publicity Department, officially launched, 集中推出 a large number of rich-content and novel-form online reading activities.

Libraries across the country also held various themed reading promotion activities. During the Spring Festival, the National Library, together with China Children and Juvenile Publishing House, Yila Reading, and Shenzhou Sharing (Beijing) Cultural Media Co., Ltd., jointly initiated the “Celebrating the New Year Together, Enjoying the Fragrance of Books—National Children and Juveniles Reading at Home Public Welfare Activity.” Zhejiang Library held a “Celebrating the New Year in Modern Times, Reading to Welcome the New” activity; Jilin Provincial Library, together with CNKI, launched an online quiz activity titled “Learning Spring Festival Cultural Knowledge, Appreciating Traditional Cultural Charm.” During the Lantern Festival, Dongguan Library, Hangzhou Library, Liaoning Provincial Library, Inner Mongolia Library, Zhengzhou Library, and others held online Lantern Festival riddle guessing activities. Jiaxing

City Library's main and branch libraries planned and held more than 100 online activities from New Year's Eve to February 5.

Some reading service institutions also specially launched online reading services for specific user groups such as medical workers and patients. CITIC Publishing Group provided special gifts to medical workers nationwide, who could receive one year of "Good Books Quick Listen" benefits by presenting their work ID photos; WeChat Reading provided unlimited WeChat Reading season cards to 85,000 frontline medical staff in Hubei; Hubei Provincial Library, Wuhan Library, Wuhan district libraries, and Wuhan Xinhua Bookstore jointly established an epidemic information service column and online digital reading platform, "Fangcang Digital Culture Window," and multiple "Fangcang Book Houses." The "Digital Culture Window," led by Hubei Provincial Library, included 80,000 e-books, 420,000 audio files, 8,482 videos, and rich reading activities, all freely available to Fangcang isolation crowds and hotel isolation crowds. On February 22, Shanghai Library joined hands with Hubei Provincial Library to open the "Shanghai Library Fangcang Digital Library" to patients and medical staff in Wuhan Fangcang hospitals, bringing the "Shanghai Book Fair • Power of Reading" 2020 Special Online Gathering activities and high-quality Shanghai Library resources into Wuhan Fangcang.

Entering April, the domestic and international epidemic situation made epidemic prevention and control normalized. Publishing houses and libraries persisted in epidemic prevention work while launching series of reading activities such as online reading months and reading festivals. On April 1, the 2020 Guangzhou Reading Month kicked off with the theme "Reading Day and Night, Living Up to Your Youth," combining the reading needs of citizens during epidemic prevention and work resumption periods to launch online reading. On April 5, the 2020 Southern China Book Fragrance Festival online reading themed activity officially launched, lasting from April 5 to May 15 with weekly updates and special topic pushes. On the eve of World Book Day, JD Books held an "April Reading Month" activity with the theme "Believe in the Power of Reading," covering more than 800 million people.

2.3 Significant Service Effects, but Room for Improvement

2.3.1 Effects of Online Reading Services During the national anti-epidemic period, publishing houses, libraries, and other reading service institutions actively utilized online platform matrices to serve readers in an all-round way, with unprecedented service scale and intensity. According to media reports and service data provided by some reading service institutions, both in terms of total service volume and growth rate, online reading services of publishing houses, libraries, and other institutions achieved remarkable results during the anti-epidemic period, as shown in Table 1 .

Table 1 Online Service Effectiveness of Some Reading Service Institutions During the Anti-Epidemic Period

Institution/Platform	Service Effect
Multiple publishing houses	By January 29, e-books and audiobooks such as “Novel Coronavirus Infection Protection,” “Novel Coronavirus Pneumonia Prevention Handbook,” “Novel Coronavirus Infected Pneumonia Prevention Handbook,” “Novel Coronavirus Infected Pneumonia Protection Handbook,” and “Novel Coronavirus Infected Pneumonia Prevention and Treatment Knowledge Q&A” were launched on about 20 network dissemination platforms and digital reading platforms for free dissemination, with click-and-read volumes exceeding 10 million [2].
QQ Reading APP	On January 26, a free reading zone of “Scientific Protection, Overcoming Difficulties Together” was opened, with nearly 1 million visitors [3].
Chinese Audio-Video and Digital Publishing Association	By February 20, the reading clicks of the special topic on its 17K Novel Network exceeded 30 million person-times, the total visits to epidemic prevention digital books on the Book Fragrance China platform exceeded 20 million person-times, and the reading visits to epidemic prevention digital books on the Digital Rural Book House platform exceeded 10 million person-times [3].

Institution/Platform	Service Effect
Publishing units and online literature enterprises under the association	From February 1 to 29, more than 80 free reading zones were set up, with total user browsing volume exceeding 5.28 billion person-times, total reading volume exceeding 7.22 billion person-times, total reading time exceeding 330 million hours, total downloads exceeding 240 million times, and new registered users exceeding 100 million [4].
Zhejiang Education Publishing Group	By February 17, 212 textbooks and teaching supplementary e-books were launched, with 17 articles published and cumulative graphic reading volume approaching 20 million times [5].
Phoenix Publishing Media Group	By February 17, the “15 Famous Experts and Teachers · 15-Day Reading Plan” it hosted was expanded to “15+5,” with more than 60 million person-times participating in the activity [6].
Guangdong Provincial Sun Yat-sen Library	From January 24 to February 5, the total visits to the digital library were about 290,000 times.
Guangzhou Library	The daily average visits to the digital library exceeded 41,000 person-times, a year-on-year increase of over 40%.
Zhongshan Memorial Library	From January 23 to February 13, the e-Qiyue platform had 18,873 readers, a year-on-year increase of 62.88%; e-Qiyue platform clicks were 691,900 times, a year-on-year increase of 81.93%; resource downloads were 97.84 GB, a year-on-year increase of 191.89% [7].

Institution/Platform	Service Effect
Fujian Provincial Library	From January 23 to February 6, total online reading and clicks were 5.975 million times, including 1.863 million digital resource clicks and 4.112 million WeChat and Weibo reading volume, with 4,500 new followers [8].
Hunan Provincial Library	From January 24 to February 12, digital reading platform resource clicks reached 3.27 million times.
Hubei Provincial Library	The “Fangcang Digital Culture Window” had over 300,000 users within half a month of its launch [9].
Shenzhen Library	From January 24 to March 23, readers accessed digital resources nearly 220,000 times from outside the library, a 23% increase compared with the same period in 2019, and off-campus resource downloads increased by 62% year-on-year [10].

2.3.2 Problems in Online Reading Services Of course, both the online reading service system and service capabilities have many problems during the anti-epidemic period that need to be improved in the future. Although China has established a basic online reading service system, there is still a gap from social expectations and requirements, and the level of support needs to be improved. In the face of the major epidemic, most reading service institutions performed well in emergency response, but many institutions’ performance was unsatisfactory, with weak awareness and ability to actively adapt and solve problems. Although online reading services did not experience the frequent lagging or system crashes seen in other online services such as online office and online education, there were still problems in service system stability and usability. Digital reading resources are relatively insufficient, especially with structural shortages of high-quality resources, making it difficult to meet users’ personalized needs.

Service capabilities and effects vary among different institutions, with significant gaps between them. The excellent performance of a few leading institutions cannot conceal the mediocrity of more institutions. Compared with

commercial reading service institutions, traditional public welfare reading service institutions such as libraries have gaps in online reading service capabilities and influence, and need to strengthen their own marketing and promotion efforts. Service personnel are inadequately prepared in internet literacy, and their online service and promotion capabilities need improvement.

3. Recommendations and Outlook

At present, China's epidemic prevention and control situation continues to improve, and production and living order is accelerating its recovery. Looking to the future, we should conduct in-depth research on the online reading service systems, platforms, resources, service capabilities, and effects during the epidemic prevention and control period, summarize experiences, identify problems, and further improve the reading service system and enhance comprehensive reading service capabilities.

3.1 Improving the Reading Service System

(1) Establishing Emergency Management and Service Systems, and Improving Emergency Plans. First, we should increase infrastructure investment and improve the online reading service system. China is vigorously promoting the development of Internet Plus services. Recently, the central government has continuously deployed new industries and infrastructure construction, especially accelerating the progress of "new infrastructure" such as data centers. Looking to the future, reading service institutions can leverage the development of "new infrastructure" to upgrade online reading service systems. Second, we should strengthen the construction of excellent digital reading resources. Publishing institutions should increase the production of digital publishing masterpieces, and the government should increase its support for them. Libraries should also gradually increase the proportion of digital resources purchased. Additionally, we should strengthen the construction of professional online reading service teams and actively introduce compound talents with strong business and IT capabilities.

On the basis of improving the online reading service system, we should actively promote its integration with traditional offline reading services, flexibly combining them according to users' diverse needs and complementing each other's advantages to better meet public reading needs.

Emergency management systems are systems formulated to deal with major accidents and disasters. Emergency reading services are components of the entire social emergency management system. Under the framework of the national emergency management system, we should coordinate the planning of reading service emergency management work, establish necessary response mechanisms, adhere to the combination of prevention and emergency response, normal and abnormal states, and maintain constant vigilance. Emergency plans are response plans and schemes developed in advance based on occurred and possible

emergencies. This epidemic is a major test of the emergency management capabilities of China's reading service institutions. We should address the shortcomings and deficiencies exposed in the epidemic response, improve relevant work mechanisms and emergency plans as soon as possible, and ensure they can be mobilized and used at critical moments.

(2) Vigorously Developing Online Reading Services and Integrating Them with Offline Reading Services. Online reading services are not only emergency measures to ensure normal service during the epidemic period, but also important components of the daily reading service system and a full display of "Internet Plus Services" applications. With the spread of the epidemic abroad and the existence of import risks, China's anti-epidemic work will be normalized for a period of time in the future, and online reading services remain important measures in anti-epidemic work and cannot be relaxed. During the epidemic, China's digital economy grew against the trend, with user scale of most network applications showing significant growth. As of March 2020, China's internet user scale reached 904 million, with an internet penetration rate of 64.5% [11]. The greater popularity of public online behavior has greatly promoted China's digital transformation, and reading service informatization is the general trend. The 17th National Reading Survey released by the China Publishing Research Institute shows that in 2019, the contact rate of digital reading methods among Chinese adult nationals was 79.3%, with the contact rates of online reading, mobile reading, e-reader reading, and Pad (tablet) reading all increasing, and more than half of adult nationals preferring digital reading methods [12]. Faced with the growing online reading service demands of users, reading service institutions such as publishing houses and libraries need to increase investment, further expand and improve the online reading service system.

We should promptly summarize the successful experiences of emergency services during the epidemic and extract new models. The online reading service emergency measures during the anti-epidemic period can be considered a large-scale social experiment, and some measures will stop as the epidemic eases. However, we can consolidate effective measures to become normal practices in the post-epidemic period, injecting new elements into the informatization application of China's reading services. We should promptly summarize the successful experiences of online reading services during the epidemic prevention period, accumulate excellent cases, extract new service models, and promote them within the industry.

3.2 Continuously Improving Comprehensive Online Reading Service Capabilities

Continuously improving reading service capabilities is the core task of reading service institutions. During the epidemic prevention and control period, reading service institutions such as publishing houses and libraries withstood the test, but also exposed some problems. The development of reading services is driven by the collaborative innovation of multi-dimensional variables including talent,

content, technology, users, and management. At present, we need to turn crisis into opportunity, change pressure into power, continuously innovate, and further improve comprehensive online reading service capabilities.

(1) Summarizing Successful Emergency Service Experiences and Extracting New Models. The online reading service emergency measures during the anti-epidemic period can be considered a large-scale social experiment, and some measures will stop as the epidemic eases. However, we can consolidate effective measures to become normal practices in the post-epidemic period, injecting new elements into the informatization application of China's reading services. We should promptly summarize the successful experiences of online reading services during the epidemic prevention period, accumulate excellent cases, extract new service models, and promote them within the industry.

(2) Tracking Changes in User Reading Behavior. The epidemic is changing the world in various fields and also changing people's behavior. In the future, "cloud life" will become part of life for many members of the public. Reading service institutions need to track changes in users' online reading behavior and adjust reading service strategies in a timely manner.

(3) Timely Application of New Generation Information Technologies. The epidemic has demonstrated the power of online reading services. In the future, we should leverage new generation information technologies such as big data, cloud computing, 5G, virtual reality, and artificial intelligence to develop smart publishing and smart library systems, expand new reading services such as multimedia reading services, personalized precision services, and real-time online reading interaction, to better meet user needs.

(4) Strengthening Online Reading Promotion. The epidemic promoted the utilization of digital reading resources, and many publishing houses and libraries took full advantage of the opportunity to promote digital publications. In the future, we should continue to strengthen online reading promotion, including online resource recommendations and online themed reading activities, to encourage more users to use digital reading resources.

(5) Improving Service Personnel's Information Capabilities. Given the current situation where many reading service personnel have insufficient information capabilities, we need to strengthen the cultivation of professional talents for reading service informatization in the future, leverage the collaborative advantages of smart talents and intelligent technologies, and improve professional service levels.

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Observation and Reflection on Online Reading Services During the Period of National Prevention of COVID-19

Mao Yihong

College of Information Science and Technology, Nanjing Agricultural University, Nanjing 210095

Abstract: [Purpose/significance] This paper summarizes and analyzes the measures of online reading service in China during the period of national prevention of COVID-19, and provides reference for improving online reading service in China. [Method/process] Online reading services of publishing houses, libraries and other reading service institutions during the epidemic prevention period were tracked online on the platform of WeChat, Weibo and websites, etc., and its performance was summarized and analyzed. [Result/conclusion] At present,

all kinds of reading service institutions have shifted their service focus to online services in an emergency. According to the diverse reading needs of all kinds of readers, they have increased system support, published epidemic prevention publications in an emergency, and expanded the dissemination of online high-quality books. They have generally performed well, but some problems have also been exposed. We need to change the pressure into the power to further improve the online reading service system and improve the comprehensive reading service ability.

Keywords: online reading; digital reading; reading service; reading promotion; emergency service

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

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