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The platformization of China's film distribution in a pandemic era

Wendy Su

Department of Media and Cultural Studies, University of California Riverside, Riverside, CA, USA

ABSTRACT

The COVID-19 pandemic has fundamentally transformed global media industries' practices and altered audiences' media consumption habits. The film industries have shortened theatrical windows and expanded streaming services to cope with this reality, which has accelerated the so-called digital distribution revolution. This study focuses on the transformation of China's film distribution and exhibition sector before and during the pandemic. Specifically, the study tracks the strategies of China's digital giants, iQIYI, Tencent-backed Maoyan, and Alibaba-backed Tao Piao Piao, for promoting and exhibiting films. By integrating digital media studies and industrial studies, the study seeks to tackle the issue of whether distributional platformization can serve as the infrastructure of the film industry and usher in a new era of the digital entertainment revolution. The findings indicate that digital corporations' strategies have accelerated the platformization of the distribution infrastructure of the film industry. However, current industrial practices nourish the prospect of coexistence in the foreseeable future.

KEYWORDS China; platform; film industry; digitalization; distribution

Introduction

The COVID-19 pandemic has fundamentally altered audiences' media consumption habits worldwide and transformed global media industries' practices, business models, and industrial relations. On July 28, 2020, AMC Theatres reached an unprecedented agreement with Universal under which the studio's movies will become available on premium video-on-demand (PVOD) after only 17 days of play in theaters. This deal revolutionizes film distribution by collapsing the long-standing three-month window for the theatrical showing of films to a mere 17 days. Yet, just four months earlier,

CONTACT Wendy Su  wendysu@ucr.edu

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in March 2020, AMC's CEO Adam Aron sharply rebuked Universal's decision to make the movie, *Trolls World Tour* (2020), immediately available on PVOD, even threatening to boycott all Universal titles (McClintock, 2020). John Fithian, head of the National Association of Theatre Owners, also raged against Universal's decision and even accused the studio of lying to consumers when it claimed that the film was being released simultaneously on PVOD and in cinemas (Tsui, 2020).

In China, the first country hit hard by the pandemic, a similar practice was initiated much earlier, during the 2020 Lunar New Year holiday and in the midst of the national lockdown. The film producer Huanxi Media Group reached an agreement with digital giant ByteDance to allow the free exhibition of well-known film director Xu Zheng's new movie, *Lost in Russia* (2020), on ByteDance's online platforms on January 25. ByteDance paid Huanxi Media Group at least 630 million yuan (US\$91.25 million) to close the deal. However, this resulted in condemnation by the Film Industrial Association of Zhejiang Province, where China's largest film production base is located, and a call to boycott films made by Huanxi and Xu Zheng if the internet premiere went ahead. An open letter submitted to the State Film Administration accused the social media premiere of trampling and destroying China's film industry. Signed by representatives of 23 theaters and film studios, including Wanda Film Holding, Bona Film Group, and Henan Oscar Theatre Chain, the letter stated that bypassing theaters' exclusive window period threatened the very existence of theater chains and cinemas (Cailianshe, 2020).

The conflict of interest between theaters and digital platforms and their fight over market share in the United States (US) and China, especially during the ongoing pandemic, have far-reaching implications for the film industry throughout the world. In fact, this conflict is the latest manifestation of an ongoing tension between the audience's desire for easy access to audio-visual products and the attempt of studios and distribution venues to control media flows and maximize profits (Curtin et al., 2014). This tension has been witnessed for over a decade not only in the screen industries in the US and China, but in traditional media industries and digital newcomers worldwide. Facing the "disruptive" challenge posed by digital giants, traditional media companies have pursued survival strategies of vertical integration and conglomeration that both establish the presence across platforms and maintain the dominance so as to retain audiences (Fung & Chik, 2021, p. 319). Meanwhile, digital giants have displayed more aggressive moves into the arena of traditional media industries. The pandemic has further intensified the tension and competition between the two, and it has unexpectedly accelerated what renowned media scholars

Michael Curtin, Jennifer Holt, and Kevin Sanson have termed “the digital distribution revolution” (Curtin et al., 2014, p. 4).

This article focuses on the transformation of China’s film distribution and exhibition platform before and during the pandemic. As Cunningham and Silver (2013) commented, “one of the defining characteristics of Chinese film and video consumption is that much of this occurs online” (p. 43). They believe that “if content is king, then distribution is King Kong. The power and profitability in screen industries have always resided in distribution” (Cunningham & Silver, 2013, p. 4). This article takes on “King Kong”—the first stage of the Chinese film industry’s digital revolution. As the pandemic deepens the crisis among China’s theater chains and presents unprecedented opportunities for digital platforms, China’s digital giants have seized the opportunity to permeate the film distribution sector. Thus, the article centers on the following questions from the industry’s perspective: What are these digital giants’ strategies for promoting and exhibiting films? Can theaters and digital platforms coexist during and after the pandemic? Are they rivals or partners? Theoretically and from the perspective of digital media studies, the article conceptualizes the digital platformization of the film industry’s distribution and exhibition. It seeks to tackle the issue of whether distributional platformization can serve as the infrastructure of the film industry and usher in a new era of the digital entertainment revolution.

Combining industry analysis and digital media studies, and drawing on industrial reports and data, media coverage, and online forum discussions, this article first historicizes online streaming platforms and their foray into China’s film industry, and the impact of COVID-19; it then analyzes the experiments with online distribution launched by digital platform giants iQIYI, Tencent-backed Maoyan, and Alibaba-backed Tao Piao Piao, as well as ByteDance and others. Finally, the article predicts future distribution trends and offers implications for media industry studies and the digital revolution.

The platformization of media distribution and exhibition

The attempt to conceptualize the digital revolution has come a long way from “media convergence” (Jenkins, 2006) to “connected viewing” (Holt & Sanson, 2014) to “social media entertainment” (Cunningham & Craig, 2019) and finally to platformization—the current stage, when digital transformation pervades every aspect of daily life (Bucher & Helmond, 2018; Helmond, 2015; Nieborg & Poell, 2019). Henry Jenkins’s seminal thesis of media convergence mapped out the overall trajectory of fundamental media transformation. According to Jenkins (2006), media convergence was more than a technological shift; it altered the relationships among existing

technologies, industries, markets, genres, and audiences. Convergence encompassed “the flow of content across multiple media platforms, the cooperation between multiple media industries, and the migratory behavior of media audiences who will go almost anywhere in search of the kinds of entertainment experiences they want” (Jenkins, 2006, pp. 2–3).

Holt and Sanson (2014) theorized the new trend as “connected viewing.” For them, connected viewing echoed Jenkins’s (2006) emphasis on the increasingly blurred boundaries between producers and consumers and on distinct delivery systems, but it is “an outgrowth of convergence culture” (Holt & Sanson, 2014, Introduction, para. 7). Connected viewing is a broader ecosystem encompassing digital distribution, new forms of user engagement, second-screen media, intermediaries, and regulators; it “spans a wide spectrum of industrial practices, from multiplatform modes of production and distribution to the reconfigured promotional strategies and measurement techniques increasingly necessary to gauge marketing success in the digital space” (Holt & Sanson, 2014, Introduction, para. 2). Accordingly, Holt and Sanson (2014, Introduction, para. 8) maintained that “connected viewing points to a more fundamental shift in the current media ecosystem, a process in which the various strands of convergence culture have become more fully integrated into the institutional, regulatory, and cultural forces currently shaping media industries worldwide.” Thus, Holt and Sanson (2014) intended to create a theoretical umbrella or a comprehensive framework that incorporated and connected drastic shifts in the linkages among media production, distribution, and consumption.

Cunningham and Craig (2016) defined “social media entertainment (SME)” as an emerging protoindustry that was “built upon the technological, networking, and commercial affordances of multiple, rapidly scaling, near-frictionless, global social media platforms” (p. 5412). Alternatively defined as “communitainment,” SME was facilitated by networked communications technologies (social media platforms), highly interactive communication strategies, and content genres and formats, and it was driven by “an ethos of community” consisting of fans, subscribers, and supporters (Cunningham & Craig, 2016, pp. 5412–5413). In their later work Cunningham and Craig (2019) argued that “SME constitutes a more radical *cultural* and *content* challenge to established media than the digital streamers (or portals)” (p. 5), and they claimed that SME was “best understood as an *inter-dependent clash of industrial cultures*” (p. 22). They believed that the Chinese “influencer economy” may indicate the emergence of “an alternative Chinese social media entertainment industry” (Cunningham & Craig, 2016, p. 5419), and they aimed to incorporate China’s social media practices into the general framework of SME.

The latest theorization framework is platformization; this term best captures the omnipresence of digital platforms in media industries and in

audiences' daily lives today. Drawing on Information Systems, Management Science, and Computer Science, researchers have defined digital platforms as a multi-dimensional computational system that can serve as content delivery intermediaries and digital portals (Gillespie, 2015, 2018; HASTAC Team, 2009), or "multisided marketplaces that integrate viewers, subscribers, advertisers, third-party developers, and other service providers" that can "enable a wide range of interactions between users, advertisers, and third parties" (Wang & Lobato, 2019, p. 358). Platforms are not only the collection and running of data; they also "afford an opportunity to communicate, interact or sell" (Gillespie, 2010, p. 351). As a basic resource that drives digital platforms and provides the competitive edge, data are central to surveillance, interactions, and capital accumulation. Thus, platforms are a mechanism to monitor, extract, and capitalize on data, creating a new business model that draws on data as the source of their economic and political power (Srnicek, 2016).

Researchers have witnessed the transformation of the internet into a space of continuous data extraction facilitated by the convergence of computational message circulation and data analysis technologies (Turow & Couldry, 2018). Through the digital transformation of the physical space of social life via datafication, commodification, and surveillance (Turow, 2017), platforms actively induce, produce, and programme digital economic data circulation and capital accumulation, and they contribute to the rise of the platform economy and platform capitalism (Kenney & Zysman, 2016; Langley & Leysho, 2016). With the arrival of "a platform society" (van Dijck et al., 2018), the platformization of social life has become a distinct feature of contemporary society.

According to Nieborg and Poell (2018, p. 4276), "platformization can be defined as the penetration of economic, governmental, and infrastructural extensions of digital platforms into the web and app ecosystems, fundamentally affecting the operations of the cultural industries." Platformization entails the replacement of two-sided market structures with complex, multi-sided platform configurations affecting the production, distribution, and circulation of cultural content. The key issue is whether platforms can replace the infrastructure of the production, distribution, and circulation linkages of the cultural industries and whether platformization can be an infrastructural part of the industries. Media scholars have argued that "digital technologies have made possible a 'platformization' of infrastructure and an 'infrastructuralization' of platforms" (Plantin et al., 2018, p. 295). Citing case studies of Facebook and Google, they discovered most of the key features of infrastructures—ubiquity, reliability, invisibility, and gateways—are also embedded in digital platforms, which also feature programmability, affordances, and "accessibility of data and logic through application

programming interfaces (APIs)" (Plantin et al., 2018, p. 294). Accordingly, digital platforms have been considered to be an extension of infrastructures and they may represent a supplemental force if not a completely oppositional or rival force. Therefore, the convergence of digital platforms and infrastructures is an ongoing process (Plantin, 2017; Plantin & Punathambekar, 2019).

In China, digital media have long served as "an alternative to traditional media" (Keane, 2016, p. 5432); moreover, Chinese society is experiencing the fast process of platformization (De Kloet et al., 2019). Digital giants' foray into the Chinese film industry is a typical manifestation of omnipresent platforms in media industries, testifying to the prevailing power of digital technologies to profoundly transform the entire value chain of film distribution, exhibition, and production. This transformation begins with their incursion into the content distribution and exhibition sector. This transformation reflects two aspects of the platform economic model: the extraction and commodification of data as a source of profit generation and competitive power and the infrastructuralization of platforms to take over the physical space of film distribution and exhibition. In the following section, I use case studies to discuss the strategies of digital giants' infrastructuralization of the film industry through the integration of datafication, commodification with the transformation of the physical space of distribution and exhibition.

The history of China's online video distribution and the impact of COVID-19 on China's film industry

It is widely-known that China's online video distribution originated from the very beginning of the reform and open-door era and as a result of rampant piracy during the 1980s and 1990s (Kokas, 2014; Li, 2019). Online video services provided copyrighted and pirated television programs and audiovisual content originally stored on VCDs or DVDs. With video-sharing platforms and peer-to-peer live streaming services taking shape in the mid-2000s, YouTube-like Youku/Tudou, as well as iQIYI, Tencent Video, Sohu Video, and LeTV, became dominant players. These companies also began to experiment with new distribution models and made arrangements with Hollywood studios to shorten theatrical windows. For example, LeTV was one of the earliest video companies to purchase streaming rights to Hollywood movies and partnered with Sony, Paramount, Universal, MGM, Lionsgate, and Miramax. The online video release window was reduced from six months to three months; between 2012 and 2014 it was even shortened to two weeks if a Hollywood blockbuster would not be shown in China's theaters and after its theatrical release in North America (Li, 2019).

The COVID-19 pandemic further shortened the window gap and expediated the digital platforms' takeover of legacy distribution channels.

The COVID-19 pandemic has dealt a devastating blow to China's film industry. As of April 2020, 5,328 film and TV companies had closed or revoked their business registrations, which is 1.78-times the total number that went out of business in 2019. Furthermore, there were less than 8,000 registrations of new companies related to the movie theater industry in the first two months of 2020, down 25% from the same period in 2019 (Davis, 2020). During the first quarter of 2020, three major theater chains—Wanda, Jinyi, and Xingfulanhai—recorded a total loss of 800 million yuan (roughly US\$114 million) (Shenshu, 2020). According to the China Film Association and data from Alibaba Pictures, ticket sales in the first quarter of 2020 plunged 88% to 2.238 billion yuan (US\$320 million), and the entire industry had lost an estimated 30 billion yuan (US\$4.286 billion) in ticket sales by the second half of May. One in five cinemas surveyed by the association had laid off staff at the end of March (Ouyang, 2020). At dawn on June 10, 2020, 52-year-old Huang Wei, Deputy Chief Executive of Bona Film Group, jumped to his death, symbolizing the arrival of the darkest time for China's theater chains (Weiliwelt, 2020).

Consequently, digital giants were the only venues to experience economic growth worldwide before and during the pandemic, fundamentally transforming audiences' media consumption habits. According to the 2019 data from QuestMobile, China's three largest video service platforms of 2019 are Tencent Video, iQIYI, and Youku, each with a monthly active base of over 40 million users (Fung & Chik, 2021). These three platforms are owned by Tencent, Baidu, and Alibaba, the so-called BAT—China's largest digital titans, which form a "Chinese-style oligopoly with close connections to the government" (Keane, 2016, p. 5436). These digital giants' foray into the entertainment industries raises the expectation that they may enter into a close and lasting partnership that benefits both. In addition to being major online distributors of entertainment products, they are pursuing investment, production, and promotion opportunities, aiming to become major producers of "internet films." At the 2014 Shanghai International Film Festival, Yu Dong, Founder and CEO of Bona Film Group, famously predicted that "film studios will work for BAT in the future" (Fan, 2019).

It has been 16 years (2004) since Google acquired YouTube and ushered in a new wave of internet video platforms. Gong Yu, Founder and CEO of iQIYI, summarized the three major changes that internet platforms have brought to China's film industry: the progressive establishment of digital platforms as synchronous and second screens to theaters, the establishment of an online ticketing system accounting for more than 90% of ticket sales, and the innovative experiment of internet movies as a new business

model. As a result of the fast growth of internet platforms, China's online video industry generated revenue of 201.68 billion yuan (US\$28.7 billion) in 2018, far greater than China's box office earnings of 60.976 billion yuan (US\$8.71 billion) that same year (iQIYI.com, 2019). In the past 10 years, iQIYI, Alibaba Pictures, Tencent Video, and Maoyan have become major players and are constantly experimenting with new business models.

iQIYI's experiments with online distribution models

As one of the earliest digital platforms, iQIYI is continually experimenting with new movie distribution models. Its first experiment was a quasi-synchronous distribution model that shortened the theatrical window to a mere nine days. It introduced this model in 2016, just two years after it entered the film industry. This model is especially beneficial to the small-budget niche market and artistic movies, which are difficult to get into major theater chains. To support China's artistic and independent movies, iQIYI opened a special section on its platform dedicated to artistic movies and used a pay-per-view payment method. The 2016 low-budget, but award-winning film, *What Is in the Darkness*, about a young Chinese girl growing up amidst a homicide investigation, was made available on iQIYI only nine days after it was released in theaters, and it received 8.78 million views in two weeks. The price per view was 5 yuan (US\$0.70), and subscribers paid only half that cost. On the iQIYI platform, the movie earned more than 21.95 million yuan (US\$3.14 million) in two weeks, based solely on the half-price fee paid by subscribers in comparison to its overall theatrical box office revenue of 7.5 million yuan (US\$1.07 million) (Yang, 2016).

In addition to artistic movies, other genres, such as thrillers, comedies, and family movies, may do well on online platforms. A 2019 crime movie, *Guilt by Design*, made 99 million yuan (US\$14.1 million) at the box office, with an audience of 2.71 million in theaters, but its platform views reached 86 million. Another 2019 movie, *Almost a Comedy*, made 188 million yuan (US\$26.86 million) at the box office, with 5.55 million in attendance at theaters; in comparison, its platform views reached 135 million, or 25-times more than its theater attendance. In contrast, big-budget, high-tech blockbusters may not do as well on digital platforms. For example, the gross theatrical box office revenue of *The Wandering Earth* (2019) was 4.6 billion yuan (US\$657 million); its platform cost was 12 yuan (US\$1.70) per view, which was cut in half for subscribers. Thus, its gross platform revenue of 384 million to 766 million yuan (US\$54.9 million to \$109.4 million), generated from 64 million views, could not match its theatrical revenue. Two categories of movies that perform equally well in theaters and on digital platforms are nationalistic movies, such as *My Country and I* (2019) and

Chinese Captain (2019), and ancient-costumed or action movies, such as *IP Man 4* (2019) (Xie & Deng, 2020).

After a period of five years, China's film industry established a procedure under which digital platforms served as "second screens", and movies became available digitally after a one-month "theatrical window". Platforms usually paid 8% of the theatrical box office for each movie. However, the pandemic changed this convention, and digital platforms introduced Hollywood's PVOD model and experimented with other promotion strategies.

While iQIYI may not be China's first digital platform to introduce the PVOD model, as the experiment with shortening theatrical windows has been going on for over a decade, it was the first to formally use the official term, PVOD, thus, claiming its pioneering status. Similar to the PVOD deal between AMC and Universal for *Trolls World Tour*, iQIYI used a revenue-sharing PVOD model to exhibit Donnie Yen's new movie, *Entering the Fat Dragon* (2019), as well as *Knockout* (2020), *Spring Tide* (2019), and the Hollywood movie *Marriage Story* (2019) in the first half of 2020. For each movie, the pay-per-view cost was 12 yuan (US\$1.70), equally divided between the platform and the producer, which is similar to the revenue-sharing model used by theaters. After two months, movies can be viewed on the platform for free. The PVOD model is increasingly popular among young audiences. According to Hub Entertainment Research, more than 60% of interviewees between the ages of 18 and 34 are willing to pay for premier movies (iQIYI.com, 2020a). iQIYI's third strategy is to build a "super online special-effects theater" to emulate the audiovisual effects of IMAX theaters. This super online theater is equipped with the most advanced digital technologies and special-effects capabilities, such as Dolby Atmos, Dolby HDR, and 4K MAX HDR. With TV10.6 and above, and with the support of smart TV hardware, this super online theater can significantly enhance the platform viewing experience and provide visual effects resembling those available in IMAX theaters. iQIYI integrated the PVOD model with this super online theater to promote special-effects blockbusters. In July 2020, the fantasy adventure movie, *Double World* (2020), premiered on the platform via the PVOD model. The premiere immediately ranked number one in Douban's live Hot Movie ranking and number six in Weibo's Hot Topic Search, accumulating more than 400 million platform clicks. The film earned 42.62 million yuan (US\$6.09 million) from the platform in three days, a new record for a PVOD title in China. This convinced Netflix to purchase the distribution rights outside of China (iQIYI.com, 2020b). With the closure of theaters due to the pandemic, audiences long for big-screen and special-effects blockbusters, and the availability of movies like *Double World* at iQIYI can partially compensate for audiences' loss of viewing pleasure.

Although it is uncertain if this super online theater will be sustainable after the pandemic is over when audiences return to theaters, this experiment offers an alternative to the big-screen experience during the pandemic, and it may endure even after the pandemic if over for coach-potato audiences preferring the convenience of enjoying movies at home.

In addition to its experiments with online distribution models, iQIYI also commodifies consumers' data to generate more profit and enhance its economic power. In a thorough and meticulous review of iQIYI's datafication strategies, Zhao (2021) analyzed how iQIYI employs a "multimetric and algorithmic audience measurement regime" (p. 3673) to mobilize and commodify fan labor to advance its platform ecology in China's screen industries. Featuring a decision-making process fully informed by and based on the comprehensive metric that includes the measurement of the impact of celebrity and fan value, iQIYI has taken full advantage of data-driven fandom and consolidated its role in the streaming service.

To summarize, iQIYI's experiments of shortening the theatrical window, introducing the PVOD model, and building a super online theater aim to extend the virtual space and partially take over the physical space of theaters and enhance audiences' viewing satisfaction and pleasure. Through these experiments, iQIYI attempts to replicate the ubiquity and reliability of the film industry infrastructure and to make the platform more deeply and irreplaceably entrenched in the audience's daily life.

Comprehensive ticketing and streaming service platforms: Tencent-backed Maoyan vs. Alibaba-backed Tao Piao Piao

One of the defining features of the platformization of China's entertainment industry is the emergence of comprehensive digital ticketing and streaming service platforms. Roughly 80% to 90% of movie tickets are sold online and by cell phone in China, in comparison to just 20% in the US. Two digital ticketing platforms currently dominate and divide the Chinese market: Tencent-backed Maoyan accounts for nearly 60% of the nation's ticketing market and Alibaba-backed Tao Piao Piao claims the remaining 40%. Digital ticketing platforms are significant because they have transformed the traditional theater ticketing system into an innovative one-stop platform that integrates digital technologies with ticket purchasing, film marketing, audience ranking, and streaming services. Digital ticketing platforms have attracted large segments of the audience through their substantial discounts; consequently, they have dismantled theater-based audience membership clubs. These platforms have radically altered conventional ticket purchases and revolutionized how films are distributed, promoted, and exhibited.

The dominance of Maoyan and Tao Piao Piao is the result of several rounds of mergers and acquisitions of smaller ticketing platforms in the past decade. Their emergence accompanies the skyrocketing growth of China's e-commerce platforms. Maoyan was originally Meituan Movie, based on the e-commerce company Meituan, which is famous for its group purchase discounts. Maoyan became an independent company in 2015 and took over most of Meituan's group purchasers. Enlight Media became one of its shareholders in 2016, and Tencent invested 1 billion yuan (US\$143 million) in Maoyan in 2017, becoming its second largest shareholder. Maoyan has a number of applications that users can take advantage of, including the Meituan app, the Dianping app, featuring consumer rankings of dining, shopping, and touring locations, and WeChat Purse. Tao Piao Piao was originally Taobao Movie, based on the e-commerce company Taobao Mall, which is affiliated with the Alibaba Group. Tao Piao Piao has several convenient apps, including Alipay and Ant Financial Services. After several years of mergers and acquisitions, Maoyan and Tao Piao Piao became the two largest digital ticketing platforms. By 2017, they dominated China's digital ticketing market, selling approximately 80% of the country's movie tickets (Pu, 2017).

The success of Maoyan and Tao Piao Piao lies in their integration of digital delivery portals with e-commerce practices and the commodification of consumers' data. By collecting data of people who register and tracking their e-commerce consumption patterns, they use an algorithm to filter and recommend feeds to circulate desired information and messages, directly targeting different demographic consumers and promoting movies.

The COVID-19 pandemic forced digital ticketing platforms to develop new strategies to promote films. During the 2020 May Day holiday, Maoyan launched a new service for long-form video distribution and promotion to strengthen its platform capabilities and better serve the entertainment industry. Through a partnership with Huanxi Premium (Huanxi.com), Maoyan selected five acclaimed European movies for which Huanxi Media holds the exclusive rights and promoted them on Maoyan's own app and other channels, offering a 24-hour free viewing window from May 1 to May 5. After the free viewing period, Maoyan invited famous movie critics to live-stream their discussion and analysis of the films. The audience could interact with these experts via real-time comments. After the free viewing period, the movies were available on a pay-to-play basis only on Huanxi Premium. Through Maoyan's innovative distribution method and influential media matrix, these movies attracted the attention of film lovers and generated more than 100 million online mentions (Maoyan Entertainment, 2020a).

Tao Piao Piao's most successful online film promotion involved the patriotic movie, *Wolf Warrior 2* (2017), in the summer of 2017. It created an

“internet communication matrix” that integrated all Alibaba-affiliated media consumption platforms and e-commerce platforms, such as Alibaba Literature, Alibaba Music, and Youku, as well as Tmall (formerly Taobao Mall), AutoNavi (China’s Google Map), and UC Browser (China’s Safari). This became the largest online communication matrix in China, and, to a large extent, its users overlapped with movie audiences. Connecting with these vast user databases and coordinating under the Alibaba umbrella, Tao Piao Piao marketed *Wolf Warrior 2* on all these platforms by sending vivid advertisements, messages, feeds, and pop-up windows to every user, drawing their attention and creating several heated promotion waves. Further, by adopting algorithm techniques, Tao Piao Piao categorized users based on their age, gender, education, occupation, and shopping and media consumption habits and then launched “target marketing” and “niche promotion”, sending appropriately edited feeds to the right groups to attract audiences. Tao Piao Piao spent nearly 1 billion yuan (US\$143 million) on marketing and focused on the premiere weekend of July 29–30, 2017. *Wolf Warrior 2* broke China’s single-day box office record, garnering 425 million yuan (US\$60.7 million) on August 6, and it became the only Asian movie among the top 100 worldwide, with record high box office receipts of 4.5 billion yuan (US\$643 million) by August 13. Thanks to increasing acclaim and positive word-of-mouth, nationwide audiences extended beyond Alibaba platform users, and even people who rarely went to theaters were motivated to go and see the movie. *Wolf Warrior 2* broke the worldwide record for single-day movie attendance, with 141 million on August 19. Within one month after its release, the movie had earned more than 5.3 billion yuan (US\$757 million), and Tao Piao Piao had sold 40% of the tickets (Yu, 2017).

This success indicates the centrality of consumers’ data and the commodification of data to the economic power of digital platforms and the profit generation of film distribution. Tao Piao Piao began its next stage of development in 2019, when it aimed to move from being merely a ticketing platform to a “movie watching decision-making platform.” Taking advantage of audiences’ feedback data, Tao Piao Piao intended to offer additional movie information and rankings and more audience interactions to help people make their movie-watching choices, subtly influencing the audience’s movie consumption pattern. Learning from the “influencer economy”, it pioneered the model of “celebrity ticket sales” when it invited a movie star, Hu Ge, into the broadcasting booth for the showing of his artistic movie, *The Wide Goose Lake* (2019). Hu Ge sold 260,000 tickets in 6.5 seconds and attracted 11 million fans online (Jiang, 2020). The COVID-19 pandemic has severely interrupted the development of digital ticketing platforms. Both Maoyan and Tao Piao Piao suffered significant financial

losses due to the ticket refunds necessitated by China's Lunar New Year lockdown in 2020. For the first half of 2020, Maoyan's revenue totaled 203.1 million yuan (US\$29 million), in comparison to 1.98 billion yuan (US\$283.5 million) in the first half year of 2019; it had an adjusted net loss of 307.1 million yuan (US\$43.86 million) in the first half of 2020 in comparison to an adjusted net profit of 380.4 million yuan (US\$54.34 million) during the same period in 2019 (Maoyan Entertainment, 2020b). With the pandemic under control in China and the reopening of cinemas, digital platforms will be embracing new opportunities and experimenting with new distribution and exhibition strategies.

Additional models: smart cinema and others

The Smart Cinema app was released in May 2018. It uses devices, such as cell phones and laptops, as mobile projectors to screen movies that have been released for distribution while still within the theatrical window. Its selling point is that people can view blockbusters at home on the sofa at the same time theatergoers are watching these films. The app adopts the same technological standards used by theaters (Digital Cinema Package and Key Delivery Message) and uses a pay-per-view business model. The price for each movie is 25 yuan (US\$3.57), based on the average price of a theater ticket. The revenue-sharing ratio with the movie producer is set at 52.27%, the same ratio as theaters. This revenue is included in China's official box office tally. The Smart Cinema app also offers a professional interpretation service so that users can better understand the films' context, narrative, cast, and cinematography. In October 2018, Smart Cinema USA landed in Hollywood and launched a collaboration with partners on five continents (Pang, 2019). According to CEO Gao Qunyao, Smart Cinema is different from streaming platforms in two respects. First, Smart Cinema screens movies simultaneously with theaters, whereas streaming platforms exhibit movies after a theatrical window. Second, Smart Cinema follows the revenue-sharing convention, and its revenue is calculated as part of the official box office total. Therefore, Smart Cinema is neither a theater nor a streaming platform. To some extent, Smart Cinema is an online on-demand theater. It has the advantage of screening a large number of "leftover" low-budget movies that cannot get on the schedules of theater chains. It also faces resistance from both theaters and streaming platforms because it is competing for market share. The pandemic lockdown provided a new opportunity for Smart Cinema, and its users numbered 1 million by July 2020. Gao Qunyao believes that "super theater chains" that allow the coexistence of theaters and Smart Cinema will be the trend over the next 20 years (N. Zhang, 2020).

Other digital platforms have added the movie streaming function. For example, ByteDance's Douyin now offers dozens of free films, including *The Last Emperor* (1987), *Farewell My Concubine* (1993), and *The Great Wall* (2016) (Borak, 2020). Sony Pictures invested US\$400 million in April 2020 in Bilibili, China's youth subculture platform, to launch collaborations primarily in anime, music, and games. However, Chinese movie fans are expecting thousands of Hollywood movies to become available at Bilibili (Ke, 2020).

Conclusion: the prospect for the platformization of film distribution

The experiments launched by digital giants in the US and China have fundamentally transformed how films are distributed, marketed, and exhibited, and they have changed the movie consumption habits of audiences. The strategies of China's digital platforms include the shortening of theatrical windows and serving as second screens, algorithmic data extraction, and the commodification of data. All these strategies function to increase the platformization of the distribution infrastructure of the film industry and to transform and take over the physical space of film viewing. For the screen industries, the question remains: "Who will be the ultimate winners?" (Curtin et al., 2014, p. 4). For digital media studies, the question is: Can platformization really replace the physical and tangible infrastructure of film distribution and exhibition?

The COVID-19 pandemic has spurred the expansion of digital platforms and their streaming services. Warner Bros announced it will send its entire 2021 slate to HBO Max for 31 days the same day they hit theaters (Couch & McClintock, 2020). Netflix has become the biggest winner with its subscribers' growth soaring past 200 million (Solsman, 2021). Disney+ had passed 100 million paid subscribers by early March 2021 (Jarvey, 2021). Screen Engine/ASI CEO Kevin Goetz concluded that "PVOD is certainly here to stay. COVID-19 isn't responsible for PVOD's success, it merely accelerated the inevitable" (McClintock & Jarvey, 2020). Viacom CBS Networks International (VCNI) planned to launch a premium subscription streaming service in key international markets in 2021. VCNI's CEO Bob Bakish said that although the company remains committed to the theatrical window, "windows will likely shorten," and new business models will become more common (Szalai, 2020). Meanwhile, AMC's CEO Adam Aron believes that PVOD will become the "industry standard" (McClintock, 2020).

In China, the film industry and digital platform giants are working together to explore new models to ensure win-win results. At the Shanghai International Film Festival, held in July 2020, film professionals and platform executives shared their thoughts via a remote Zoom teleconference. The

consensus is that theaters and platforms are complementary and should support each other for their long-term coexistence. Although the PVID model is relatively new and foreign to the Chinese audience, more platforms are introducing it (SIFFORUM, 2020).

However, the containment of the pandemic in China and the renewed boom in China's 2021 Lunar New Year box office have rekindled hope for big-screen recovery. China's Lunar New Year box office revenue topped 10 billion yuan, or \$1.5 billion, by February 16, 2021, a figure surpassing half of the country's total revenue of 2020. Consequently, IAX shares soared (Flannery, 2021). IAX China gained US\$92 million in the box office in the latter half of 2020 and increased its China market share from 2.8% to 3.6%. It also plans to build 248 new IAX theaters in China, in addition to the four that it had previously announced would be built in Shanghai (Y. Zhang, 2021). In an interview, IAX CEO Richard Gelfond said he is 100% confident that US moviegoers will rush back to the theaters as Chinese movie lovers do. He said: "I don't think 100 years of culture, and 100 years of wanting to associate with other human beings and be with your family to experience a story in an exciting way, is changed by the ability to stream" (Brzeski, 2021).

Richard Gelfond's statement shed light on a crucial difference between digital platforms and tangible theaters. Theaters are physical infrastructures, but they are also spaces where emotional attachment and the bonds between family members and friends are formed, spectatorship is created, and cinematic experiences are unfold. These affection features, family rituals, and socialization desires may not be fully replaced and fulfilled by emotionless data-filled platforms. Moreover, spectacular visual effects and breath-taking viewing pleasure may only be achieved through big screens.

Industrial practices in the US and China have shed some light on future trends in the film industry and offer implications for media industry studies. First, the advantage of digital platforms is that they can distribute small-budget, niche-market, and artistic movies that are difficult to get into theater chains, thus helping film producers recoup production costs and even make a profit. For big-budget films and those laden with special effects, platform distribution may be less profitable in the US than in China, where platformization is much more ubiquitous and the user base is much larger. The latest Motion Picture Association report revealed that digital subscribers hit the 1 billion mark globally in 2020. The overall entertainment business was actually saved by streaming services and the PVID model with an 18% decline in global revenue of \$80.8 billion being offset by a 31% digital viewing increase (THEME Report, 2020). The latest data further testify to the growth potential and momentum of digital platforms.

Second, digital platforms have the advantages of flexibility, viewing freedom, and portability, which makes experiments with other platform

distribution models, such as Smart Cinema, possible and even profitable. However, for many audiences, going to the cinema is a social or family ritual that perhaps cannot be completely replaced by digital platforms. Furthermore, digital platforms may not provide the audience with the same visual pleasure and special-effects experience available in theaters. Only time will tell if digital platforms can completely phase out theaters and serve as must-have infrastructures to the film industry. Current industrial practices nourish the possibility of a win-win situation and the prospect of coexistence in the foreseeable future.

Third, platformization has penetrated every aspect of people's daily lives; it has become an inexorable social infrastructure. Consequently, it has altered people's media consumption habits. The changes in film distribution brought about by platformization are merely one segment of this profound social transformation. Therefore, this is a significant media event and a social phenomenon that merits further in-depth research.

Notes on contributor

Wendy Su is Associate Professor of the Department of Media and Cultural Studies at University of California Riverside. She is the author of *China's Encounter with Global Hollywood: Cultural Policy and the Film Industry, 1994-2013* (University Press of Kentucky, 2016), and co-editor of *Asia-Pacific Film Co-productions: Theory, Industry and Aesthetics* (Routledge, 2019).

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