

# The Rise and Proliferation of Live-Streaming in China: Insights and Lessons

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**Abstract.** The \$5 billion dollar live streaming industry has a tremendous impact on the social behaviours of internet users in China. However, despite early appearance of the technology in the North America, live streaming has yet to reach the level it has in China. Using observations from the rise and proliferation of live streaming services in China, we identify some culture and social insights about the phenomenon as well as some lessons that we can apply to North America.

**Keywords:** Live Streaming, Social Computing

## 1 Introduction

*Man seeketh in society comfort, use and protection.*

– Sir Francis Bacon, *The Advancement of Learning*, 1605

As early as 2005, live-streaming culture began in China when public video chat room services such as YY were repurposed by users to host public performances [3]. Continuous growth has resulted in millions of viewers watching the anchors (主播- zhǔ bō) perform live each night on China’s most popular live-streaming platforms [2], creating an estimated \$5 billion dollar industry[10]. However, despite the early appearance of the technology through gaming live-streams like Twitch.TV [7] in North America, it has only recently expanded into mainstream culture with Facebook Live and mobile applications like Periscope.

Breaking off from the traditional advertisement or pay-per-view model that many streaming platforms have adopted, these live-streaming services use a reward-based system where viewers buy gifts for streamers. Once streamers receive these gifts, they can then exchange them for cash. Chinese live-streams also differ greatly in content, style and form (Figure 1) where various live pan-entertainment live-streams like sports, e-commerce, variety shows and concerts are popular [3]. A unique category of live-streams is one the Chinese call show-room live-streaming (秀场直播 - xiù chǎng zhí bō) where streamers, mostly beautiful girls, sing and dance in front of a webcam. As its popularity grew, live-streaming sessions have shifted to become a new form of social media, allowing the creation of social connections between the streamer and viewer. Viewers who have difficulty or are reluctant to integrate into traditional social settings are provided with a new means of seeking “comfort, use and protection”.

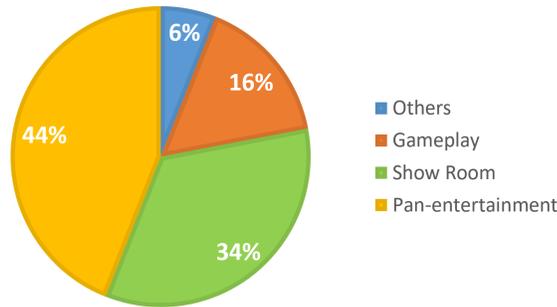


Fig. 1. Live-Streaming Content Composition[3]

## 2 Related Works

There has been a lot of research in mobile live video chatting, online video sharing, and specialized video streaming services, which relate closely to live-streaming.

Video chatting apps on mobile devices have enabled users to share their experience with remote friends or even strangers. A study by O’Hara et al. [11] has showed that more than half of video calls on mobile devices occurred outside the home or work environment. Procyk et al. [12] found that video streaming shared activity created a strong tie between remote people and improve social interaction. Some other study focused on how strangers communicate using live video chat. Tian et al. [16] studied a mobile app which randomly connected strangers to chat. Their study shown that video chat among strangers tended to be short and only appealed to super users. Many of the live-streamed contents in China are in the form of communications between strangers, however, they tend to be lengthy and attracts both super users and occasional users. By investigating streamer motives, live-stream content and streamers’ interaction with the audience, we can gain some preliminary insights of this.

While large-scale online video sharing services such as Youtube enable people to share video contents, comment on videos and follow other uploaders’ sharing, it has been shown that 63 % of the most frequent uploaders often uploaded copied content from other sources [5]. Live-streaming, on the other hand, enables streamers to perform improvisational self-produced content without the lengthy process of post-editing.

There have been a number of works that focused on various aspects of game live-streaming using platforms such as Twitch. In particular, studies have been done on the development of live-streaming online communities [7] and how it affects users’ behavior[14]. Tang et al. [15] conducted a mixed methods of study to understand how people use the live-streaming apps and their data provided insights about early live streaming use practices. However, the platforms they studied were vastly different from what is currently popular in China, and the usage patterns of such apps are also vastly different. We will highlight these

differences and discuss about why these differences have resulted in different levels of popularity and social influence.

### 3 Discussion

#### 3.1 The Rise of Live Streaming

In China, the various forms of live streaming began when netizens began to repurpose the public video chat room service, YY. By 2013, the live streaming ecosystem had completely matured and involved large guilds that trained and managed streamers. The early release of user-friendly live streaming infrastructure and platforms made it easy for regular internet users to broadcast from their bedrooms with just a webcam and a microphone.

Mobile live streaming was limited by the high bandwidth requirement of watching live streaming (48Mbps). The advancement and penetration of mobile 4G networks in 2015 allowed for users to watch live streams from their mobile devices whenever and wherever[3]. Improvements of mobile hardware, i.e. increase in camera resolution, made it easier for users to capture live videos thereby further lowering the barrier for anyone to be a live streamer.

#### 3.2 The Proliferation of Live Streaming

An analysis of the live-stream user base in China showed that nearly 70% of its users are under the age of 30 of which 74.7% are male [13]. In this demographic, the majority of individuals categorizes themselves as a *diǎo sī* (屌丝 - plebeian), an ordinary person born in an ordinary family, with a mediocre look, and having a humble job [9]. At night, 59.3% of them kill time on the internet at home alone [13]. This aligns with statistics that show live-streaming traffic peaks during lunch breaks and after work hours. Through watching and interacting with live-streamers and their communities, this demographic seeks to satisfy their need for social contact and entertainment. In addition, the live comment and gift visualization streams encourages immediate responses from streamers thereby allowing viewers to create a more personal relationship with the streamer.

Geographically, only 11% of viewers are in Tier 1 cities (i.e. Beijing, Shanghai, Guangzhou), 34% in Tier 2 cities and 55% in Tier 3 cities [13]. For viewers in Tier 1 cities, a reason for watching live-streaming is rooted in loneliness, since many of them are living away with their parents and childhood friends; for viewers in lower-tier cities, live-streaming provides a window to previously unseen experiences, and gifting allows them prestige that they can't have in real life. For instance, a guy who comes from less developed areas can get the same amount of attention and interactions from celebrities as a guy from Tier 1 cities, as long as he gives decent amount of gifts to streamers.

#### 3.3 Cultural Parallels

In an environment where piracy and counterfeiting run rampant, what is it about live-streaming that makes viewers willingly pay for something that they

can watch legally for free? Beginning from the Han Dynasty(202 B.C. - 220 A.D.), “rewards” was the main source of income for most authors, performers, and artists in ancient China[4]. The act of rewarding artists and performers historically indicated that the person was in a high societal position with prestige or wealth. Street performers in ancient China often began their performance by shouting “有钱的捧个钱场，没钱的捧个人场” (If you have money, please donate. If you don’t have money, please make the crowd bigger.). To some degree, popular live streaming platforms have emulated that environment by including some key elements in their interface (Figure 2).



Fig. 2. YiZhiBo App Interface

By displaying the profile pictures of some of the fellow live stream viewers in addition to the number, viewers are placed in a digital crowd and therefore are more inclined to participate. The steady visualization of gifts in the form of real life objects also give users instant gratification in the form of pride. For instance, a higher price gift may be in the form of a yacht or a sports car. This is further enforced with gamification components like leaderboards, allowing users to grow “face” - a Chinese concept of maintaining a public image of one’s prestige or reputation.

Although the majority of live-streaming viewers are male, female anchors make up 73% of the streaming population [1]. In a survey by Baidu, the top reason given for watching live-streams is because of “beautiful streamers” [6]. This is similar to ancient Chinese brothels where more often than not, beautiful

girls were performers rather than prostitutes – giving rise to the phrase “卖艺不卖身” (sell entertainment but not body - mài yì bú mài shēn). Historians have confirmed that these brothels were often cultural centers in historical China and adopted a similar business model of “rewarding” the performance[8].

### 3.4 Effects on Mainstream Media

Live-streaming in China also makes up an important component of the one-person media concept that gained popularity with the proliferation of social media. Similar to the rise of internet celebrities with the invention of YouTube, live-streaming has created a new road to fame that breathed new life into the Chinese entertainment circle. For example, it has bred unique categories of music like 喊麦 (a form of rapping - hǎn mai) and 古风 (pop interpretations of ancient Chinese music - gǔ fēng). More recently, live-streaming has become a paying profession with some companies paying their streamers a fixed salary in addition to a cut of whatever they receive as gifts.

Mainstream media in China has also embraced live-streaming as an innovative way of connecting with their audience and a new way of discovering talent. In addition, the focus on viewer interaction methods enabled by the “rewards” system has replaced the need for talent thereby lowering the barrier to entry for these streamers.

## 4 Insight and Lessons

The live-streaming market has thrived in China because it capitalized on the social needs for people living in the social media era. By providing a novel way to create and maintain social connections, live streaming services have replaced, in modern China, social environments that have existed since ancient China. The live-streaming ecosystem has further morphed from an cheap and wide-reaching stage for showcasing talent to one that encouraged social connections between strangers in real life. Live-streaming services from Facebook, YouTube and Snapchat differ greatly in interface design and interaction methods and often do not encourage interactions between the streamer and the viewers in the way that popular Chinese live-streaming applications like YiZhiBo, YingKe and YY do. It is important that we take cues from more successful platforms about new ways that satisfy human beings’ need to seek “comfort, use and protection” from societal connections.

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