

# VTubers and pandemic in China: a new dimension of technological cultural production

## VTubers e pandemia na China: uma nova dimensão da produção cultural tecnológica

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**Abstract:** Considering the current landscape of cultural product consumption through digital platforms, this study aimed to understand the exponential growth process of the VTuber segment in China, amidst the challenges posed by the COVID-19 pandemic. This research revealed the complexity involved in this development due to the intersection of factors unique to China, stemming from a very particular context regarding the degree of participation and the consequent intensity, as well as the networks established, albeit indirectly, by public and private entities. Through a literature review from a narrative perspective, case studies on prominent Chinese VTubers, and an analysis of the breadth of their engagement beyond live interactions with their fans, the study unveiled the emergence of new aesthetics and new possibilities for para-social relationships within this virtual realm. It also indicated a greater involvement in other sectors, such as services and public relations, thereby hybridizing and generating a distinct model for this phenomenon. This led us to conclude that this cultural product has found additional niches in China and is likely to expand into more, especially as the offering of an increasingly potent internet becomes more widespread among the population. Lastly, the unique Chinese context for products in this cultural industry domain underscored the robustness of its hybrid model and points toward a paradigm shift in the creation, performance, and consumption patterns related to VTubers, which may be replicable in other countries

**Palavras-chave:** VTuber. China. COVID-19. A-SOUL. VirtuaReal.

**Resumo:** Considerando o atual panorama do consumo de produtos culturais via plataformas digitais, o presente trabalho objetivou compreender o processo de crescimento exponencial do segmento VTuber na China, tendo como cenário os desafios impostos pela pandemia de COVID-19. Este estudo revelou a complexidade envolvida neste delineamento por conta da interseção de fatores endógenos à China, fruto de uma conjuntura muito particular no que tange ao grau de participação, e consequente intensidade, além das redes estabelecidas, mesmo que colaterais, pelos entes públicos e privados. Através do levantamento bibliográfico, na perspectiva da revisão narrativa de literatura, da promoção de estudos de caso sobre os principais VTubers chineses e da análise da amplitude da participação deles para além das lives com seus fãs, o estudo revelou o engendramento de novas estéticas e de novas possibilidades de relações para-sociais com este universo virtual, além de uma maior participação em outros setores, como o de serviços e relações públicas, hibridizando e gestando um modelo próprio deste artefato. Isto nos permitiu concluir que este produto

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cultural encontrou outros nichos de atuação na China e tende a se inserir em mais outros, principalmente quando se massifica a oferta à população de uma internet cada vez mais potente. Por fim, a conjuntura particular chinesa para produtos desta seara da indústria cultural revelou a robustez de seu modelo híbrido e aponta para uma mudança de paradigma sobre a criação, performance e formas de consumo relativos aos VTubers, passíveis de serem replicados em outros países.

**Palavras-chave:** VTuber. China. COVID-19. A-SOUL. VirtuaReal.

## 1 Initial notes

Subsequently to the COVID-19 pandemic, the consumption of cultural products changed significantly due to the forced migration to digital environments due to social isolation during the most acute pandemic period. The production and consumption of cultural artifacts were directed towards digital platforms as they have greater reach to be enjoyed individually and remotely (ZHOU, 2020). Information technologies applied to media and interactive platforms have leveraged the growth of production, manipulating, and widely distributing these artifacts to an audience with potential for exponential growth (ZHOU, 2020) (DOUXIAOWEI; YANG, 2021) (DINIZ et al, 2022).

The social ecosystem configured by isolation in the pandemic temporality provided an increase in the variety of possibilities for consuming cultural products online, in addition to a broad desire for content innovation on the internet (TAN, 2023).

The year of 2020, the first year the COVID-19 brought the beginning of the massification of an originally Japanese cultural product that found its niche in live stream platforms such as YouTube, Twitch, and Bilibili (REGIS, 2021) (DINIZ et al, 2022) (TAN, 2023). The content creators behind this content came to be known as “Virtual YouTubers” or simply “VTubers”, who use software and hardware to anonymously represent themselves through 2D or 3D virtual avatars in place of their real personas (LU et al., 2021) (REGIS, 2021), with the anonymous human interpreter behind the avatar being nicknamed nakanohito (中の人 in Japanese) (LU et al., 2021) (REBULI et al, 2023).

This change in the content creator’s archetype, now no longer a physical person, but an avatar (notwithstanding it’s performed by a real organic entity), brings about a change in language and symbolism in the virtual environment. The VTuber is not a simulacrum of a human being, but rather an imagistic symbol whose aesthetic episteme proceeds in another configurational field of what is considered beautiful, as they are virtual bodies, cyborgs (REBULI et al, 2023).

In China, this process is like Japan, where this product emerged. Using the A-SOUL group, China's main VTuber company, as an example, Douxiaowei and Yang (2021) investigated the development of VTubers in China and alluded that they are an emerging theme in the idol industry in the digital era. The concept of VTuber in the Chinese market has expanded and the cultural industry linked to this product has transmuted (as seen in other countries, but in a more atomized way, especially in the more capitalized nations of the Far East) a canonical model, complicating the model of businesses, with different degrees of partnerships or state interventions in relation to other East Asian countries, but without

ceasing to increase over the years the financial movement mobilized around this type of cultural production (ZHAO, 2022) (LI et al, 2022 ).

## 2 Research path

The ongoing research commenced with a narrative review (ONWUEGBUZIE; FRELS 2016), chosen to describe and discuss the academic production concerning VTubers in China, utilizing thematic categorization. This narrative review drew from the "Google Scholar" database and the authors' empirical insights, resulting a three-part analysis: (i) an exploration of investment policies within the Chinese cultural industry heavily infused with digital technologies; (ii) an examination of the impacts of the COVID-19 pandemic on the Chinese cultural sector, along with state and private mitigation policies; and (iii) an in-depth exploration of the creation and growth of VTubers in the Chinese context, elucidating the hybridization mechanisms shaping this distinctive cultural product. The research culminated in three case studies, amalgamating the three theoretical frameworks identified in the narrative literature review. These case studies aimed to chronicle the rapid surge in VTuber consumption during the pandemic's peak, its sustained growth in the digital entertainment market, and its expanding role in various facets of social life.

## 3 Chinese technological cultural industry economic ecosystem

The Chinese economic growth of the past few decades has not been exclusive to specific economic sectors. Since the economic reforms initiated in 1978, government policies have been established to support various strategic sectors, encouraging collaboration with private entrepreneurs while maintaining direct state support in various sectors. This also includes the definition of which sectors these are and their responsibilities according to the five-year plans established by the Communist Party of China (CPC). Cultural industry is not an exception to this prerogative (LATHAM, 2007) (CHEN, 2018) (TAVARES et al, 2023).

Starting in the 1990s, China began to consider the cultural industry as a strategically important sector, implementing various incentive and support policies during the 1990s and 2000s. During this period, the Chinese government reshaped its approach to the cultural industry, moving away from media production with political-ideological objectives and focusing on creating cultural products for the consumer market. This set it apart from other state cultural services (SHAN, 2014). To promote this transformation, several multidisciplinary agencies were established with the aim of stimulating and supporting the cultural industry, which experienced steady growth, exceeding 15% annually (SHAN, 2014) (LIN, 2020). In fact, it achieved an impressive growth rate of 16.6% in 2021, representing 4.56% of China's GDP (NBS, 2022). This sector also became an important driver of China's multilateralism in international forums and discussions (VLASSIS, 2016) (TAVARES et al, 2023).

In this context, the government implemented regulatory measures that varied in restrictiveness and flexibility and provided specific incentives for each cultural segment, primarily based on the adoption of digital technologies. Sectors closely associated with the internet, such as gaming, streaming, and online videos, enjoyed greater flexibility and

fewer restrictions, which being considered emerging cultural sectors with significant growth potential (LIN, 2020) (SHAN, 2014) (JIANG; FUNG, 2019) (TAVARES et al, 2023). One of these technological cultural products, VTubers, is the focus of the current study.

The technological cultural products' export, especially games, has been highly profitable for China, turning it into an exporting powerhouse in this sector (LIN, 2020) (CAI et al., 2023) (TAVARES et al., 2023), nonetheless Chinese VTubers haven't yet become a significant export product compared to their North American and Japanese counterparts (REGIS, 2021) (DINIZ et al., 2022), initiatives for internationalization are already underway. This includes the creation of YouTube channels and social media pages on Western platforms by major Chinese VTuber groups, such as A-SOUL. However, within China, VTubers have already established themselves as a relevant market with over 300 million fans, and 64% of youth between the ages of 14 and 24 following virtual idols in the country (JI, 2021) (KONG et al., 2023). This has driven a technological cultural industry in China with a market value of CN¥ 36 billion yuan in 2023 (STATISTA, 2023c).

In summary, as highlighted by Tavares et al. (2023), the Technological Cultural Industry and its corresponding promotion, support, and development have become a significant mechanism for China's economic growth as well as for its internal and external promotion. This development is guided by the moral thread of effectively blending traditional Chinese culture with contemporary Chinese culture (JIPING, 2019). This integration is particularly influenced by the common socialist moral element present in the Chinese cyberspace (SHAN, 2014) (TAVARES et al., 2023).

Although VTubers, sometimes referred to as "Virtual Anchors" in China, haven't received specific government support policies, unlike the gaming and streaming industry, they have indirectly benefited from collaborative business networks within the technological cultural industry. Additionally, technological infrastructure developments like the expansion of 5G have played a crucial role. These developments have led to the emergence of domestic companies with advanced technologies that made the VTuber explosion in China feasible. Chinese companies have excelled in technologies such as motion capture, 5G network, and XR (LIN, 2020) (WANG, 2022b). Despite initial challenges in production and market formation around 2018, this sector has been growing organically and establishing itself as an important cultural and economic sector within China. It has gained significant popularity among Chinese youth (JI, 2021) (WANG, 2022b) (KONG et al., 2023), particularly following the COVID-19 pandemic (WANG, 2022b).

### **3.1 China's internet expansion**

In 2015, following the international trend of the time, the Chinese government launched a comprehensive political-economic campaign to promote the integration of the internet with various sectors of the economy. The "Internet+" program aimed to stimulate the use of information technology, particularly in the industry. As a result, the Chinese internet became a fundamental part of economic transformation and expansion (YANG; XIE, 2019).

During the period that brought numerous changes to China's information technology sector, significant transformations also occurred in the media and cultural sectors, marked by a notable shift towards digitization and commercialization. This transformation was driven by the convergence of digital communications, especially mobile internet, resulting in changes in work dynamics, resource allocation, project selection, and content regulation. Online platforms quickly gained importance, challenging the role of traditional media in people's lives, and expanding the reach of content to new audiences (KEANE, 2016). Amidst these changes in the cultural industry, technology, and the Chinese economy, the phenomenon of VTubers stands out, as it was made possible by the massive popularization of the internet and, to a significant extent, by the expansion of mobile connectivity through 5G (WANG, 2022b). This aligns with Lin (2020) 's predictions in 2020.

### 3.2 Bilibili

Bilibili is the leading user-generated video platform in the Chinese internet landscape. It remains significant in its niche market despite facing significant competition from other streaming platforms in general (JIANG; ZHANG, 2023). The site was founded in 2009 as a platform exclusively catering to the ACGN (Anime, Comics, Games, Novels) fan community, with its content entirely reflecting this niche (WU, 2022). This focus on more playful and predominantly Japanese media-related content sets it apart from its primary competitor in the user-generated video market, Xigua Video, which also lacks the stricter quality standards found on Bilibili (JIANG; ZHANG, 2023).

With its initial platform content in its early years consisting of anime with Chinese subtitles (WU, 2022), Bilibili operated without financial goals (CHEN, 2018) until its founder sold the rights to the startup to investor Chen Rui in 2011, marking the transition from a site focused on an isolated community to a broader corporation (WU, 2022) (JIANG; ZHANG, 2023). Bilibili gradually expanded its range of content to encompass various fields, attracting users with diverse interests for consuming and producing a wide range of content, including more "formal" topics like business or science. However, the emphasis on ACGN niche content of Japanese culture was not abandoned (LIN, 2020) (WU, 2022), as in 2022, 4.2% of the Chinese population are fans of ACGN content, particularly among the Generation Z demographic (SUN et al., 2022).

Bilibili is known for its loyal community of users who demonstrate high levels of engagement within the platform and a substantial amount of high-quality creative content (JIANG; ZHANG, 2023) (WU, 2022). Gradually, the platform has cultivated a growing and youthful community of enthusiastic fans of 2D media, which has become an iconic demographic within the platform's community (WANG, 2022b).

It's not surprising that Bilibili has had a significant impact on VTuber content. VTubing is a technological cultural product derived from otaku culture, which includes fans of ACGN content, much like Bilibili itself. Therefore, the arrival of VTuber content on the platform was a matter of time. While 60% of VTubers' revenue comes from copyright in products and services, earnings from views, rewards, and user donations are still

an important source of income (SUN et al., 2022). Public donations are one of the most crucial engagement elements between a community and its streamer (HILVERT-BRUCE, 2018), something very much present on Bilibili as well. Bilibili, despite having a strong presence in ACGN culture, has generally shown itself as a relatively open and comfortable social environment for diverse expressions (CHEN, 2018). It has proven to be extremely profitable for various types of content creators, with VTubers being among the notable beneficiaries (SUN et al., 2022).

#### **4 Impact of COVID-19 on the Chinese cultural industry**

The cultural industry faced a severe crisis in the wake of the COVID-19 pandemic, experiencing an abrupt halt in in-person activities, including tourism, sports events, conventions, and theaters due to restrictions on physical gatherings (KHLYSTOVA et al., 2022). However, in a striking contrast, a systematic review of the literature highlighted a positive impact on the information technology industry, leading to a clear division between online and offline cultural artifacts. A closer examination of how South Korea, China, and Japan responded to the pandemic's impact on their cultural sectors, as explored by Lee et al. (2022), underscores China's proactivity in implementing public policies to support the cultural sector. These policies, initiated by the central government and subsequently adopted by many local authorities, encompassed cost relief, financial assistance, credit support, and service support measures (LEE et al., 2022).

Nevertheless, it's essential to recognize that China's approach to governance and policymaking differs significantly from the conventional dichotomy of liberal capitalist meritocracy versus centrally planned socialism. In China, political capital holds a prominent role alongside, and sometimes supersedes, market capital, influencing various facets, including cultural policies (LEE et al., 2022). This dichotomy as not perfectly asymmetric, leaning towards one side, it remains crucial to comprehend the growth of Chinese companies like Bilibili, which have achieved remarkable success even with minimal or occasional state support.

In quantitative terms, in China during the first quarter of 2020, according to Zhang et al. (2022), revenues in the cultural, entertainment, and leisure sectors fell by 59.1% compared to the same period in the previous year. When considering the combined consumption of offline and online cultural products, the decline was 31.6%. However, in terms of what the authors refer to as offline cultural product consumption, such as radio, cinema, and open television, the decline ranged from 46.2% to 78.5%. Therefore, the authors argue the premise that online cultural product consumption grew, offsetting the total losses observed in all areas of the creative sector.

Regarding VTubers, the study conducted by Tan (2023) confirms that the exponential growth in the consumption of this cultural content in China resulted from a combination of increased relationships mediated by technological artifacts and the partial removal of psychological inhibitions in establishing parasocial relationships due to social isolation measures during COVID-19. Thus, the satisfaction and subsequent attachment generated by the relationship with an avatar capable of

anthropomorphically responding to consumer stimuli also suggest the continuation of this relationship, even after the end of the most acute pandemic period.

## 5 VTubers and the Chinese scope: indigenization and hybridization

As discussed by Zhou (2020); Suan (2021); Turner (2022); Xu & Niu (2022); Diniz et al. (2022), VTuber content relies heavily on the aesthetic principles of Kawaii (可愛い - cute) and Moe (萌え - burning/emotional affection), deeply rooted in Japanese otaku culture. These aesthetics encompass a range of visual and performative elements, including anthropomorphic features, colorful attire, expressive eyes, distinctive ways of speaking, and intricate backstories for avatars, among others. These elements, visible in both Japanese and Chinese VTubers (Figure 1), are strategically designed to captivate the audience and evoke feelings of affection, cuteness, and identification, particularly among consumers familiar with Japanese anime and manga culture.

When these feelings combine with authentic performances and real-time interactions with the viewing audience, they foster the development of parasocial relationships (ZHOU, 2020) (SUAN, 2021) (LU et al., 2021) (LI et al., 2022) (TAN, 2023), which stimulates consumption through digital media (DENGHUA; LIDAN, 2020) (REGIS, 2021). VTubers, who embody this culture and aesthetic, as visually demonstrated in Figure 1 and 3, generate high levels of engagement, often surpassing those of real content creators (REGIS, 2021) (DINIZ et al., 2022). Consequently, they achieve high revenue rates, especially from audience donations and the sale of cross-media products (REGIS, 2021) (KONG et al., 2021) (DINIZ et al., 2022). According to Turner (2022) and more specifically Xu & Niu (2023), who focus on Chinese VTuber fans, the main motivations for identification and psycho-emotional connection with VTuber content include:

- 1) The growing and highly engaged community with shared interests.
- 2) The considered beautiful and cute appearance of VTubers.
- 3) The attractiveness of the voice, as many VTubers use voice emulators.
- 4) VTuber content is safer to watch due to the anonymity of nakanohito, who are less likely for the public to discover about controversies and scandals in the creator's personal life.
- 5) The degree of anthropomorphism in the avatar model, which reflects the effort the VTuber content creator put into creating content for their audience.
- 6) The immersion that VTubers provide through their elements and stories, allowing for RPG (Role-Playing Game) style gamification.
- 7) The mystery surrounding the VTuber, the nakanohito, and the audience, which stimulates the audience's imagination.

Figure 1 - Japanese VTubers Houshou Marine and Hoshimachi Suisei on the left, and Chinese VTubers Kero and Kagura Mea on the right, all displaying *kawaii* and *moe* visual characteristics, regardless of whether they incorporate local cultural traits



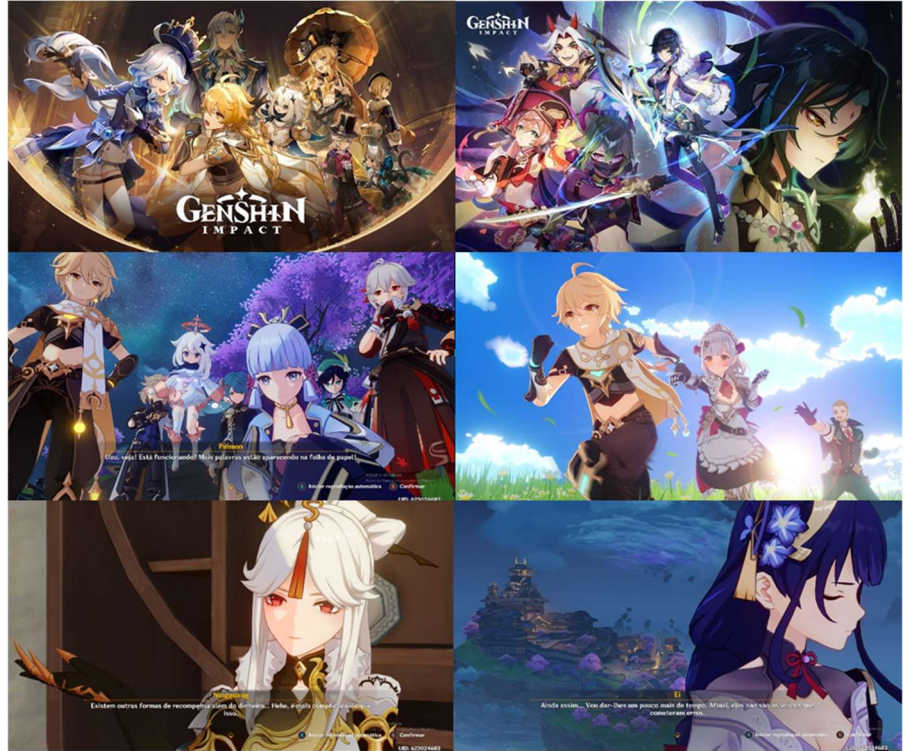
Source: Virtual YouTuber Wiki

It's worth noting that the term "otaku" is generally used to refer to enthusiasts of Japanese pop culture (ACGN - Anime, Comics, Games, Novels) and its derivatives. Originally Japanese, and even today, it was associated with individuals who were isolated in their hobbies related to these media (AZUMA, 2009) (CONDY, 2013) (GALBRAITH, 2019). However, the growing market around this culture has made it more economically relevant and important, driving various industries such as anime, manga, action figures, clothing, toys, shows, cosmetics, and more. It has become a significant international cultural promoter for Japan, and there are groups of people who proudly identify as otaku (CONDY, 2013) (GALBRAITH, 2019).

Other countries also take advantage of the global rise of this culture, such as China, which, through the game Genshin Impact, has become an important element of the country's cultural promotion with significant commercial success. Genshin Impact is part of otaku culture and incorporates strong *kawaii* and *moe* aesthetics adapted with Chinese cultural elements (LIN, 2020) (CAI et al., 2023) (TAVARES et al., 2023), as shown in Figure 2.



Figure 2 - "Genshin Impact," the biggest success in Chinese cultural export, features *kawaii* and *moe* visual characteristics in its characters.



Source: Genshin Impact: <https://genshin.hoyoverse.com/en/>, and Screen Capture by the authors (2023)

Noteworthy that the possibility of interacting with cheerful virtual girls, even if they are anonymous, can attract both young men and women by arousing comfort, identification, and curiosity, maybe with a strong emotional attachment and/or romantic interest (DINIZ et al, 2022). The generation of a unique interpretation with the avatar and the creation of creative and entertaining content are equally important for the success of the audience's identification with the VTuber (SUAN, 2021) (TURNER, 2022), thereby creating consumable narratives that also encourage the audience to create content around their favorite VTubers (LU et al., 2021) (TURNER, 2022) (DINIZ et al, 2022).

All these narratives and performances, combined with an extremely pleasing and satisfying aesthetic, stimulate the formation of parasocial relationships between the audience and their favorite VTuber (LU et al., 2021) (SUAN, 2021) (TURNER, 2022) (TAN, 2023) (REBULI et al., 2023). Parasocial relationship is a term used to describe generally one-sided and non-reciprocal ways in which viewers interact with media characters (STEVER, 2017) (SUAN, 2021) (TURNER, 2022) (TAN, 2023), and they can evolve into parasocial attachments, where media figures unilaterally become sources of strength, security, and protection (STEVER, 2017).

However, notwithstanding these *kawaii* and *moe* strategies originated in Japan, they have become a more international aesthetic and cultural phenomenon, present and adapted around the world, and they may even have local names (YANO, 2013). Therefore, VTuber content cannot be considered an exclusively Japanese cultural phenomenon (DINIZ et al., 2022), not only due to its exportation but also because of the *mukokuseki* visual characteristics present in the design of this cultural

product derived from the original kawaii, moe, and otaku aesthetics. The term mukokuseki refers to the techniques used in the Japanese cultural industry to remove cultural features from the originating country (in this case, Japan) to make the cultural product more exportable (IWABUCHI, 2002). Many of the visuals in VTubers from various countries and in Japan make references to various non-Japanese, and even Western or fantasy visuals, but most of the time, they exhibit kawaii aesthetics for visual appeal. This phenomenon is also visible in the largest Chinese VTuber group, A-SOUL, and for the sake of transnational cultural comparison, it can be observed in VTubers from the Brazilian agency Neobaka, as indicated in Figure 3, and observable in the previously Figure 1 too.

Figure 3 - Group A-SOUL, above; and Neobaka, below, with both showing *kawaii* aesthetic



Source: <https://virtualyoutuber.fandom.com/wiki/A-SOUL>;  
<https://neobaka.com.br/#talentos>

Furthermore, China began its venture in 2017 with the first amateur independent VTubers, and in 2018, it entered the industry professionally as virtual idols (including VTubers) when the first companies of this content type emerged. Many Japanese companies also entered this segment in the country, bringing their talents to create content on Chinese websites like Bilibili and hiring local talents. Notable Japanese companies in this field include Hololive, ANYCOLOR (owner of Nijisanji), and Kizuna Corp (LIN, 2020) (TAN, 2023). Some of these companies achieved significant success, such as ANYCOLOR, through the VirtuaReal group created in partnership with Bilibili. In the first livestream of one of its VTubers on Bilibili, they received over CN¥ 1.1 million in donations from the audience (LIN, 2020) (TAN, 2023).

Among these, it's worth highlighting Kizuna Corp's VTuber Kizuna AI, the world's first VTuber and the one responsible for coining the term "VTuber" in 2016 (ZHOU, 2020) (LU et al., 2021) (REGIS, 2021). Kizuna AI played an important role in the development of the VTuber industry in China due to its novelty, performance quality, and charisma, which helped boost its popularity on the Bilibili platform. Her success was so significant that Kizuna AI was considered the cultural ambassador of Japan to China (ZHOU, 2020) (SUAN, 2021) (REBULI et al., 2023). Lin (2020) highlights that in the early stages of the commercial exploration of VTubers, until the year 2020, the Chinese market was still dominated by Japanese VTubers.

However, there were setbacks along the way that served as learning experiences for the entire industry, such as when the company that owned the image rights changed the actress (*nakanohito*) behind the character and also created various derivatives of the character, losing the sense of uniqueness of Kizuna AI to Japanese and Chinese fans. This resulted in a revolt and boycott, forcing the company to backtrack on the actress change and alter the designs and personalities of the derivatives to give them more authenticity (ZHOU, 2020) (SUAN, 2021) (REBULI et al., 2023). This gave rise to Ai Ge, Kizuna AI's sister with Chinese characteristics, portrayed by a Chinese *nakanohito*, creating content for the Chinese audience but collaborating and making videos together with her original Japanese counterpart. Ai Ge became quite popular among fans, as seen in Figure 4, indicating a process of cultural hybridization (REBULI et al., 2023) and glocalization (IWABUCHI, 2002) (REBULI et al., 2023).

Figure 4 – Ai Ge and Kizuna AI



Source: REBULI et al (2023)

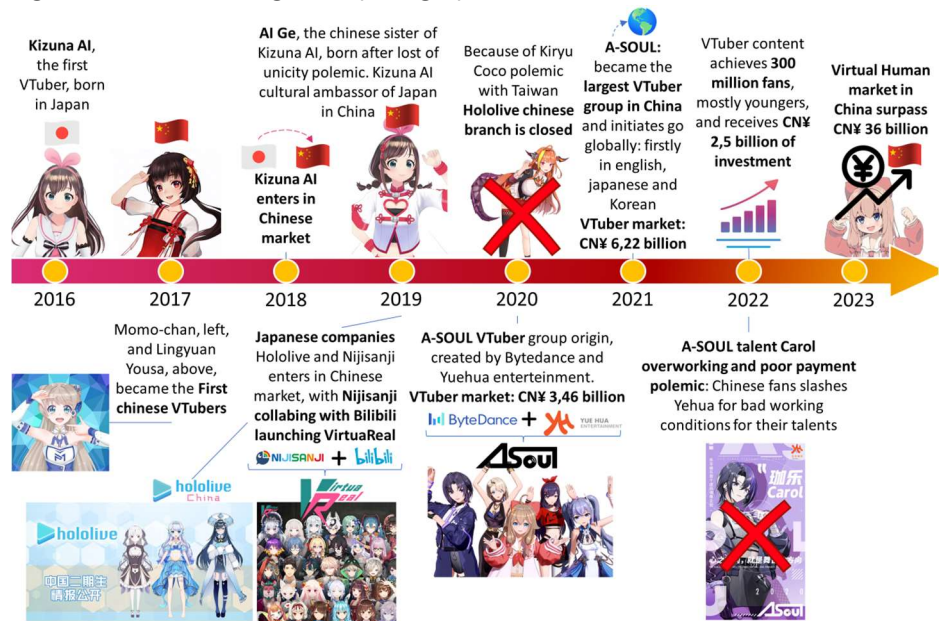
Another significant controversy arose with Hololive, in 2020. During the pandemic, their biggest VTuber, Kiryu Coco, mentioned Taiwan as an independent country in one of her livestreams, which angered the Chinese internet. The backlash and boycott were so significant for Hololive that the company decided to exit the growing Chinese market and retired the VTuber in question. Even VTubers not involved in the controversy faced backlash, and they were avoided for events and partnerships related to Chinese companies.

This incident represents one of many clashes between Japanese artists, including VTubers, and Chinese due to cultural, cognition, and behavior differences. Japanese artists often struggle to recognize the implications of their words and actions, necessitating effective regulation by the Japanese cultural industry to avoid such incidents. However, in the Chinese context, actions like the one involving Kiryu Coco are widely seen as crossing a red line, highlighting the challenges Japanese VTubers face in international operations and the difficulty local teams encounter in navigating cultural and social sensitivities (LIN, 2020). This underscores how the Chinese cultural industry, particularly in the realm of technological culture with VTubers, adheres to state-defined socialist and developmental moral guidelines, promoting harmony between traditional and contemporary Chinese culture through self-censorship practices (TAVARES et al., 2023). For example, Chinese companies avoid mentioning Hololive, and Japanese companies make efforts to warn their artists about sensitive topics, although this practice is sometimes overlooked by Japanese companies, a recurring issue noted by Iwabuchi (2002) during the Japanese cultural industry's entry into China in the 1990s, leading to cultural and labor conflicts due to centralized decision-making in Tokyo.

Nevertheless, the first authentically Chinese VTubers, according to the Virtual YouTuber Wiki, an online fan-made encyclopedia that catalogs and stores data and information about VTubers, emerged in 2017, inspired by the aesthetics and format created in Japan. These early Chinese VTubers included Momo-chan (with 219,000 followers on Bilibili) and Lingyuan Yousa (with 3.4 million followers on Bilibili). Both create content on Bilibili, focusing on topics like music, anime, Chinese culture, and live streaming (VIRTUAL YOUTUBER WIKI, 2023a) (VIRTUAL YOUTUBER WIKI, 2023b).

Therefore, with all this information presented, Figure 5 visually illustrates a timeline of the development of the VTuber industry in China, from the birth of the VTuber concept with Kizuna AI to the present year of 2023 when VTuber/Virtual Human content surpasses CN¥ 36 billion (US\$ 4.93 billion as of September 2023) in market value and in 2022 Chinese companies invested in VTubing CN¥ 2.5 billion (STATISTA, 2023c), accounting for 0.68% of China's CN¥ 5,238.5 billion cultural GDP (NBS, 2022) with the pandemic being a key factor for this massification, as the audience sought new forms of online entertainment and social relief during the period of isolation (KONG et al, 2021) (ZHAO, 2022) (DINIZ et al, 2022) (TAN, 2023).

Figure 5 – China VTubing History Infographic



Source: Authors (2023)

## 6 The Massification of VTuber Consumption in the Chinese media during the pandemic

In this part of the article, the intention was to promote a not exhaustive but exploratory case studies in which the three analytical frameworks examined in the previous sections are intertwined. In this way, the intention was to draw a sample in which the VTuber phenomenon in China is considered (i) as a cultural product immersed in digital technology, (ii) as a cultural product deeply affected by the health emergency caused by COVID-19 and its recent developments after the most acute pandemic moment, and (iii) as a cultural product configured by a series of indigenization and hybridization operations, understood within transnational and transmedia flows.

With this proposal, we conducted, three study cases covering two mains Chinese VTuber's groups: (i) A-SOUL and (ii) VirtuaReal, and (iii) an analysis of the relationship between VTubers and online commerce in China.

### 6.1 A-SOUL

The A-SOUL group (Figure 6) is considered the largest VTuber group in China, originally composed of five VTubers, Ava, Bella, Carol, Diana, and Eileen, each with an easily identifiable design, personality, and authenticity, performing live streams, online shows, and after the pandemic, in-person shows with holographic technology, music videos, and the release of original songs. The management, planning, and administration of the artistic side of the group is the responsibility of the company Yuehua Entertainment, and the technical support and technological development is the responsibility of ByteDance Co. which later fully acquired the IP (intellectual property) of A-SOUL but is still managed by Yuehua Entertainment (LI et al, 2022) (CAI et al, 2022).

Figura 6 – The Vtuber Group A-SOUL, performing at a virtual live concert in the year of 2021.



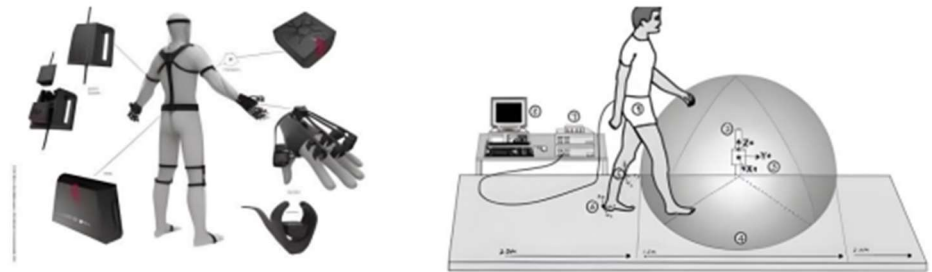
Source: A-SOUL Youtube Channel:  
<https://www.youtube.com/watch?v=gez5m2nY89A>

This group emerged in December 2020, in the midst of the COVID-19 pandemic, when China was going through one of the most restrictive lockdowns in the world, innovating in the market with extremely fluid and accurate 3D avatar models and movements, without falling into the constant problem of the "uncanny valley", strongly attracting the attention of the online public, at a technological-social-market moment of social isolation, where people were looking for new forms of entertainment, and where various content creators and companies were trying to create VTuber content in China with various technical limitations, resulting in lower quality avatars and motion capture, mainly related to 2D movements (LI et al, 2022) (WANG, 2022b). In other words, A-SOUL has brought new possibilities of human-computer interaction to the virtual idol industry, with new expressions of emotions and more natural and expressive movements, raising the bar of quality in this newly established technological cultural industry in China. All this has made A-SOUL one of the VTuber groups with the highest engagement and revenue rates in China, reaching an estimated CN¥ 3.15 million in revenue from audience donations per month by November 2021 in Bilibili (STATISTA, 2023b), and with more than 10 million subscribers added to its channels in just one year since its founding (KONG et al., 2021), noting that audience donations are one of the most assertive and powerful metrics of audience engagement and identification with the content creator (HILVERT-BRUCE, 2018).

Creating high-quality VTuber content involves costly technical requirements, although costs have decreased as VTubing gained popularity, the key challenges still like including real-time facial expression rendering and network distribution (SUAN, 2021) (REGIS, 2021) (WANG, 2022b). VTubing combines various technologies and relies on seamless integration for uniqueness and quality, in which the nakanohito perform exists between these technologies' integration, hence the importance of good planning and composition (SUAN, 2021).

Investments made by ByteDance Co. at A-SOUL's inception, such as video-based motion capture tech, inertial motion capture, and wearable devices (Figure 7), coupled with China's robust 5G infrastructure, contributed significantly to the group's initial success (LI et al., 2022) (WANG, 2022b). Notably, ByteDance Co. is considered one of China's most valuable tech companies, valued at over \$75 billion, with 150,000 employees and a strong presence in entertainment technology, including the successful TikTok app (known as Douyin in China) (XIAOYE, 2019). Meanwhile, Yuehua Entertainment reported revenue of CN¥ 290 million in 2020 and CN¥ 335 million in 2021, marking a growth of 32.1% and solidifying its position as a major player in China's media and entertainment sector (CAI et al., 2022).

Figure 7 – Motion Capture technologies for VTubing: Wearable devices, at left; and Inertial motion capture; at right



Source: WANG (2022b)

The success of the group has boosted the VTuber market in China, with the number of virtual idols, which includes VTubers, growing by 320% in one year, reaching 32,000 VTuber content creators on Bilibili in 2021 (WANG, 2022b). Additionally, 64% of people aged 14 to 24 were followers of virtual idols, resulting in a 225% increase in the average monthly viewing time of virtual idol livestreams on Bilibili during the same period (KONG et al, 2021).

This continuous growth is evidenced by their broad and engaged fan base. As shown in Figure 8, members of the group, such as VTubers Bella and Eileen, always interact with their audience and frequently view and analyze fan art created by their fans. These interactive activities between fans and VTubers are crucial for nurturing the community and keeping it engaged, thereby increasing the audience's trust in VTubers (TURNER, 2022) (LI et al, 2022). Furthermore, since 2021, the company has been seeking internationalization by creating pages on Western social media platforms such as YouTube, Facebook, and Discord, and the official A-SOUL YouTube channel achieved 178,000 subscribers (A-SOUL CHANNEL, 2023).

Figure 8 – VTubers Bella, at left, and Eileen, at right, interacting with fans by watching fanarts



Source: A-SOUL Channel (2022): <https://www.youtube.com/watch?v=gez5m2nY89A>

In 2021, A-SOUL began its holographic shows, allowing its VTubers to perform in real stadiums with their fans in real time. This not only showcased significant technological advancements but also garnered attention from various companies and sectors in Chinese society, gaining prominence. As an example, on June 20, 2021, A-SOUL held a show at the Douyin Wonderful Night, a major event promoted by Douyin, the Chinese version of TikTok, as shown in Figure 9. The event was broadcast live on television and Bilibili, reaching a peak of 12 million simultaneous viewers. Additionally, the group was invited to perform during the Beijing 2022 Winter Olympics and Chinese New Year celebrations (INTERNATIONAL PRESENCE, 2022).

Figure 9 – A-SOUL's holographic show in Douyin Wonderful Night (June 2021)



Source: International Presence (2022)

However, in 2022, a Chinese news portal reported that the company was financially exploiting the nakanohitos behind its VTuber talents, highlighting the case of VTuber Carol. It was alleged that her hiatuses in content production were due to burnout crises and repeated vocal cord injuries caused by excessive singing during live streams and online concerts, along with heavy dance training and the use of motion capture devices. Furthermore, it was claimed that she received only \$0.10 for every \$20.00 earned from fan subscriptions. These rumors angered many fans, who began attacking the company and accusing it of forced labor. They even investigated Carol's private life in search of evidence to support these claims (ZHOU, 2022a) (FU, 2022) (TOBIN; ZHOU, 2022).

Yuehua Entertainment later held a live stream with Carol to refute the news and rumors. However, fans remained skeptical and believed that Carol was being coerced. Shortly afterward, the company removed

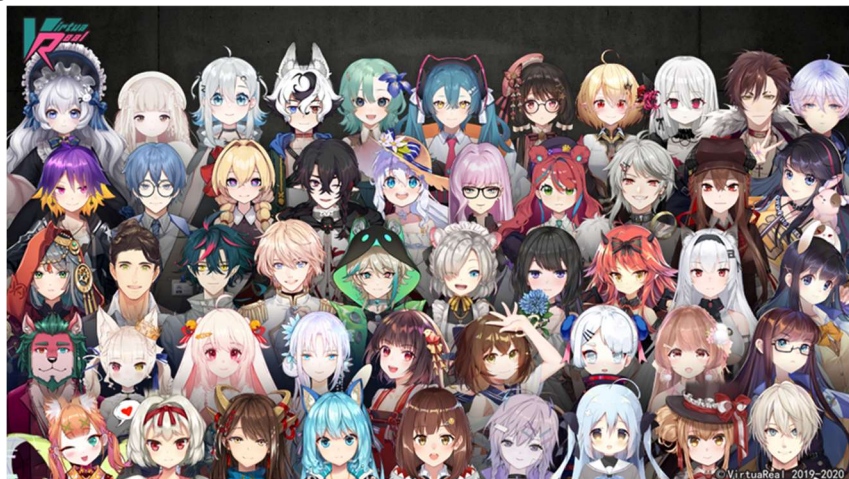


Carol from A-SOUL. During her farewell live stream, fans also accused the company of covering up the allegations, leading to the stream ending prematurely. This resulted in the loss of 329,000 followers on Bilibili for A-SOUL in a matter of weeks. The company eventually managed to reverse the situation, but it underscored the disruptive power of parasocial relationships between VTubers and their audience. Any changes in A-SOUL's idol business model must be approached with caution (LI et al., 2022) (ZHOU, 2022a) (FU, 2022) (TOBIN; ZHOU, 2022) and highlighted the active and opinion-forming role of Chinese VTuber fans, who often consider themselves co-owners of the VTuber's career (ZHOU, 2020) (ZHOU, 2022a) (FU, 2022) (TOBIN; ZHOU, 2022) (REBULI et al., 2023). Lastly, A-SOUL has invested in transmedia products such as music, games, concerts, and various items like cosmetics in partnership with L'Oréal (SUN et al., 2022).

## 6.2 VirtuaReal

VirtuaReal (Figure 10) is the official VTuber group of Bilibili, established in 2019 in partnership with the Japanese company ANYCOLOR, which owns the Nijisanji group. Like A-SOUL, this group has achieved impressive growth rates (LIN, 2020), reaching an average monthly donation of 2.93 million in 2021 (STATISTA, 2023b). Today, it boasts over 70 VTubers, forming a network for this type of content. VirtuaReal has made significant investments in technology, particularly in high-precision real-time motion capture and dynamic expressions, with direct financial support from Bilibili (LIN, 2020) (VIRTUAREAL, 2023).

Figure 10 – VirtuaReal's VTubers



Source: VirtuaReal (2023)

Bilibili's VirtuaReal project initiated to promote its platform's content, effectively employed Cross-Over Marketing networks, a strategy aimed at expanding its consumer base by attracting secondary users with different cultural backgrounds and consumption patterns that still correlated with Bilibili's primary user base. Leveraging its core captive audience interested in ACGN (Anime, Comics, Games, Novels) content, Bilibili strategically introduced VTuber content, rooted in otaku culture, to potential new fans. For instance, VTuber singers appealed to music

enthusiasts, while VTubers engaging in traditional cultural events captured viewers interested in those specific occasions, such as Chinese New Year performances by VTubers (LIN, 2020). In other way, Bilibili's was able to execute a mapping stemmed from its government mandatory user questionnaire containing comprising legal requirements and inquiries about cultural preferences, using this for particularly map cultural user tastes too. In this way, Bilibili had a deep knowledge of its users' consumption profiles, enabling accurate recommendations from VTubers through Cross-Over Marketing to guarantee the success of this business model on its platform (LIN, 2020).

However, Bilibili lacked technical knowledge and cultural capital to excel in entering this market, which was still a nascent niche in China with few professionals, limited cultural capital, and few people and companies seeing value in this type of investment, Bilibili sought a partnership with the Japanese company ANYCOLOR, which was the largest VTuber company in Japan (and the world) in 2019. ANYCOLOR also had an interest in entering the massive Chinese market (LIN, 2020).

Through these partnerships with ANYCOLOR and user profile mapping, VirtuaReal's VTubers achieved surprising initial success on Bilibili. For example, Nanako, the VirtuaReal VTuber shown in Figure 11, attracted over 1.87 million viewers during her first live stream in 2020 on Bilibili (LIN, 2020). By September 2023, Nanako had 865,000 subscribers on Bilibili. It's worth noting that many VirtuaReal VTubers incorporate significant contemporary and traditional Chinese cultural elements into their designs and performances, aligning with the fashion trends of Chinese youth. This connection with Chinese cultural capital helps them resonate strongly with contemporary Chinese youth, aligning with the objectives of China's cultural industry development policy (JIPING, 2019) (TAVARES et al., 2023). Consequently, they become admired and desirable personas, much like the idol music industry (LIN, 2020).

Figure 11 – VirtuaReal’s VTubers: Nanako, at left; Waku, at center; e Kero, at right



Source: VirtuaReal members: <https://vrp.live/members>

### 6.3 Live Commerce e product promotion with VTuber

One of the companies that invested the most in and benefited from the VTuber phenomenon in China is Taobao, one of China's largest marketplaces owned by the Alibaba Group. Taobao has integrated the Taobao Live system into its sales app, allowing merchants and influencers to showcase and interact with their products in real time, creating a massive video-based social network. This practice of sales and promotions through live streaming is called Live Commerce (ZHAO, 2022) (ZHOU, 2022b). Live Commerce generated CN¥ 1.2 trillion in revenue in 2021 (ZHOU, 2022b). It heavily relies on consumers forming parasocial relationships with commercial streamers who endorse trustworthiness, expertise in the field, and attractiveness (RUNGRUANGJIT, 2022).

During the COVID-19 pandemic, the demand for specialized live streaming workers and content creators increased significantly due to the rise in consumption of this type of service during lockdowns. Marketing companies and sales apps in China began to see a market opportunity in using VTubers to promote products due to their visual appeal, low operating and creation costs, and lower risk of these influencers getting involved in controversies. Taobao, in particular, took the lead in this trend (ZHAO, 2022) (LI et al., 2022).

In April 2020, Taobao Live started launching its own VTubers to promote various products on the marketplace. They also partnered with famous Chinese VTubers, like Luo Tianyi, who broke viewing records during her introduction on the app. While there were some transmission errors during the live stream, it was a significant milestone for the app (ZHAO, 2022). Following this, the app was optimized, making it easier for VTubers to enter and integrate their motion capture software or simply use their smartphones to embody their avatars and quickly create marketing content. You can see this interaction in Figure 12.

Figure 12 – VTubers operating sales on Taobao Live

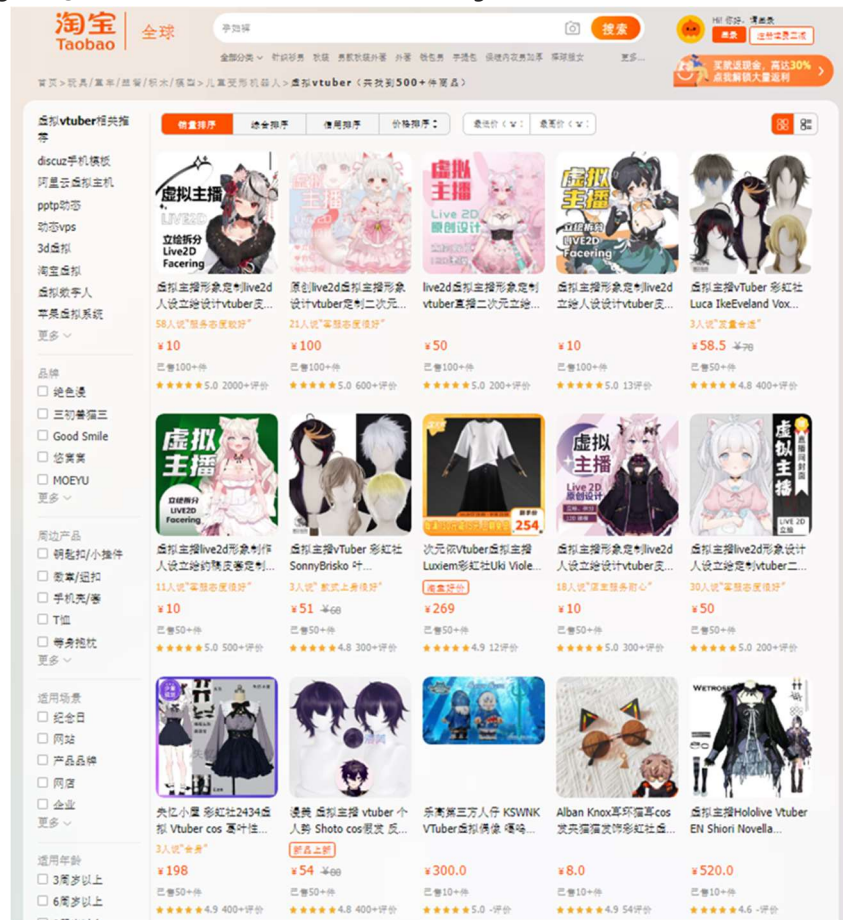


Source: SuperACG: <https://en.acgyr.com/case/17.html>, and ZHOU (2022b)

VTubers' development in the Chinese commercial ecosystem in 2020 and 2021 was still immature and constantly evolving. They needed technological refinements, improvements in latency (something that the proliferation of 5G in China is addressing), and better integration (LIN, 2020) (LI et al., 2022). However, the biggest challenge was the difficulty of a VTuber physically interacting with a real-world object. Despite these challenges, VTubers were seen as strategic for Live Commerce because the formation of parasocial relationships influenced purchasing intentions (LI et al., 2022). Parasocial relationships generated by VTubers have proven to be more engaging proportionally, especially with young audiences and fans of ACGN (LIN, 2020) (REGIS, 2021) (SUAN, 2021) (DINIZ et al., 2022) (LI et al., 2022) (ZHAO, 2022) (TAN, 2023) (XU; NIU, 2023).

Furthermore, Taobao has become an important platform for selling official and unofficial products related to the VTuber world, where a long tail of products from thousands of different VTubers can be found, ranging from accessories to full cosplay costumes, as shown in Figure 13.

Figure 13 – Taobao screenshot when searching for VTuber



Source:

<https://www.taobao.com/list/product/%E8%99%9A%E6%8B%9Fvtuber.htm>

Taobao:

Lastly, after the creation of an ecosystem for VTubers within the Taobao app, Taobao saw a 150% increase in daily traffic, and VTubers accounted for a daily viewing rate of 10 to 30% of the total audience on Taobao (ZHAO, 2022), which is highly significant considering that Taobao generated over CN¥ 770 billion in 2022 alone (STATISTA, 2022a). The success of VTubers and virtual humans in Live Commerce could be one of the reasons for Taobao's rapid revenue growth between 2020 and 2023, where they reached CN¥ 36 billion in revenue (STATISTA, 2023c), with a high potential to generate value and capital (ZHAO, 2022), as indicated in the infographic in Figure 5.

## Conclusion

The COVID-19 pandemic accelerated an ongoing process and expanded the horizons of VTubers' activities. Preceding the most acute phase of the need for social isolation, parasocial relationships were already developing alongside digital artifacts. With this necessity, a gap was created for the increased presence of virtual avatars.

In China, this advancement was refined and empowered by collateral government policies, not directly focused on fostering the digital cultural industry but stimulating the sectors that provide the

necessary infrastructure, such as the supply and widespread availability of high-performance internet.

With the consolidation of video and live stream platforms, VTubers began to attract more fans, enabling the expansion of their performance universe, for instance, into the realm of online commercial services. However, analyzing the scope of this technological cultural production also entails incorporating mechanisms of hybridization into this framework, which disrupt the previously dominant aesthetic and relational pattern. This cultural product today, in China, signifies a paradigm shift in terms of creation, performance, and consumption methods, which could potentially be replicated in other countries through localized processes of hybridization and glocalization.

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