

Ergodic Process of online Cultural Consumer Behaviors in China: A complement of AIINDAS model

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Abstract. Introduced the concept of "ergodic theory" and "cultural omnivore", this article takes *Masters In Forbidden City*—a representative documentary film—as an example, analyses online cultural consumption in China and We-Media consumer behavior from cultural studies and frame analysis perspectives. By doing case study and qualitative research, this article first suggests that although derived from popular culture, online cultural consumers can not only be seen as extensions of popular culture consumers, nor unitary sub-culture groups. Youth sub-cultural groups were supposed to be differentiated and exclusive, but nowadays they are becoming increasingly "mainstreamed" due to the development of internet enterprises and cultural omnivores. Secondly, online cultural consumers have their own decision-making and information-processing system based on virtual community culture criteria. This system distinguishes internet cultural consumer behaviors from traditional offline ones. Therefore, the model of AIINDAS may be adjusted accordingly: "investigating" can be simplified into "filtrating", "experience" can be complicated as "ergodicity", and accurate information can be replaced by dynamic information.

1 Introduction

It is understandable that online audiences are more dispersed and diverse than ever before as a result of the advancement of mobile communication technology and economic globalization, moreover, in order to ensure communicational efficiency, information online are fragmented and simplified. Therefore, communicators are gradually negotiating their rights to the audiences. Previous examples of effective communication lead one to believe that key opinion leaders—rather than communicators—can play significant roles in the Internet communicational ecology. Same condition applies to Chinese online cultural consumers and their habitus.

By doing case study of *Masters In Forbidden City*, this article attempts to analyse emerging online cultural consumption and consumer behaviors as well as testify AIINDAS Model in this new context. To address these issues, researchers combine structuralism theories like "frame analysis" from communication studies and "family resemblance" from art theories with the concepts of "ergodic process" from dynamics theories and "cultural omnivore" from consumer behavior analysis. Applied methodologies include case study, semi-structured interview and focus group.

2 Case analysis and literatures

2.1 Case resume and its research value

In 2016, a documentary film named *Masters In Forbidden City* suddenly bloomed on Chinese social media and video websites. On the Chinese website DOUBAN for reviews, this documentary made a score of 9.3(10 is the highest), averaged from over 78,000 viewers. High marks are not uncommon in and of themselves, the big hit of *Masters In Forbidden City* is rather unique because it is the first documentary, which advocate dominant Chinese culture, embraced and praised by young ACG sub-cultural^a group. The documentary was initially considered as a failure when first released on TV, but later turned around and received positive reviews from users of BILIBILI, the biggest ACG video website in China. Accumulation of increasing recommendations on Chinese social media caught eyes of mainstream media such as newspapers and TVs, and it was their reports and follow-ups that finally gave rise to this film.

The rarity of this case, whether viewed from the perspective of cultural communication, cultural consumption, or sub-culture theory, increases its

^a ACG culture is a term used mostly in Greater China and Southeast Asia. ACG refers to animations, comics and games, and ACG culture is the subculture that develops and takes shape among ACG fans. Formation of ACG culture is highly influenced by Japanese Nijigen(2次元)culture and Otaku culture(オタク文化). According to iResearch Consulting, the scale of Chinese pan ACG fans has exceed 400 million in 2020.

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research value. First of all, as a virtual community of ACG youth sub-culture, BILIBILI---whose core users are mostly young people under twenty---is not an ideal website for promotion of a conventional documentary like *Masters In Forbidden City*. According to financial report for the third quarter of 2022, 1/4 of BILIBILI's revenue came from game business(1.47 billion Chinese RMB)^b, and according to F. Zhang, the then vice president, over 70% of game users of BILIBILI aged from 14 to 20^c. Secondly, ACG fans have their own ways of cultural expression---they have their own icons, idols, languages, and ways of "otaku" living.^[1] Lastly, given that central nature of sub-culture is commonly considered as distinctive way of identification and expression, it is fairly reasonable to make a conclusion that sub-culture systems are always sophisticated that sometimes exclusive.^[2] However, these young ACG fans accept and go for a educational culture documentary film made by The Palace Museum and China Central Television both of which funded by Chinese government. Therefore, to analyse and explain this phenomenon from perspectives of cultural consumer behavior and Internet communication(or We-Media communication) can be meaningful.

2.2 Literature review

Chinese researchers have involved and studied the expansion of *Masters In Forbidden City* from various perspectives including art theories, cultural industries, web communication, and interdisciplinary studies, for example, *Cai (2017)* ^[3]combined theory of spectacle society with youth sub-culture studies in order to uncover the reason why sub-culture of BILIBILI match the content of *Masters In Forbidden City*, *Zong (2017)* ^[4] analysed determined elements of cross-media practice in the documentary, and so on. Therefore, in light of complexity of previous literatures, this article divides relevant researches into three genres: content analysis, media analysis and combined analysis. Firstly, some studies attribute the popularity of *Masters In Forbidden City* to coincidence between particular narrative pattern and specific sub-culture. These studies made content analysis from perspectives of narratology, iconology, and camera language, presumed that it is some kind of consistency between film content and sub-cultural group made this rare success. Such studies include *Liu (2016)*^[5], *Yuan(2017)*^[6], and so on. Secondly, other researchers tend to analyse this cultural phenomenon adopting theories of SNS communication, behavioral and psychological studies of Internet users, and media studies, they believed that uniqueness of BILIBILI as a media platform and its users are the main reasons, typical papers include *Du(2016)*^[7], and so on. Lastly, there are also studies applied both paradigms above which discuss the case as a whole from content analysis and media research, this kind of studies took a large

^b That's 210 million USD at the exchange rate of 6.9753 yuan to 1 dollar(28th Dec. 2022).

^c This speech is delivered by F. Zhang at the meeting of Anime Industry Summit, 28th Jul. 2016, Shanghai. Chinese version of the speech can be achieved in JIEMIAN: <https://www.jiemian.com/article/775755.html>.

proportion of related literatures, papers such as *Song(2016)*^[8] are included.

Literatures mentioned above have made great points of the reason why *Masters In Forbidden City* became popular among young ACG fans. But there are still issues remain unsolved. For instance, the majority of prior studies largely considered the micro narration of film content as well as the high interactivity of media platforms as key factors when examining the high popularity. But interviews reveal that core ACG users of BILIBILI are not particularly fond of this film, in their opinion it's the newcomers(or marginal users) watching, reviewing and recommending this documentary. Moreover, if core users were not as active as previous researchers thought, what's the reason that gathered all other marginal users? What happened to them when embracing a so called "mainstreamed" culture? These questions will be contested and answered in the following sections one by one.

3 Cultural consumer behaviors online: Who and how?

3.1. Minorities of the minority: Who are watching, reviewing and recommending?

During course of online communication, *Masters In Forbidden City* was first recommended by some BILIBILI users, it was their reviews on BILIBILI, SNS and rating websites drew attentions of film producers, TV stations, website administrators, and the majority.

"After its first play on TV, producers of Masters In Forbidden City came to a conclusion of failure, however, days after being posted on our website, the big data uncovered its popularity. Both our website and the producers are surprised. There was no documentary film before ranked as daily top 50 in click rate or page view before on BILIBILI (however the best ranking of Masters In Forbidden City was No.8) , let alone videos about traditional Chinese culture or cultural relics."^d

However, in spite of their significant role of key opinion leader, these BILIBILI users who first discovered this film are not that centric on BILIBILI website themselves.

"Even though data of Masters In Forbidden City appear to be outstanding, but this significance only matters compared with other documentaries. During promotion period of subsequent film, we made a special topic page and promoted it on our home page, the page view volume was relatively considerable---about 600,000 to 700,000 de-duplicate hits--- but still moderate than some popular ACG topics such as GINTAMA or POKEMON^e. From our database, we found out

^d S. QI, associate film producer of film *Masters In Forbidden City* and previous project operation manager of BILIBILI. Interviewed by Gaoya JU, Shanghai, China, 23rd Jul. 2018.

^e Both GINTAMA and POKEMON are famous Japanese comic that extremely popular among ACG fans.

that only part of our users are enthusiastic in Masters In Forbidden City, they are mostly low-involved ACG fans who like both ACG culture and traditional Chinese culture, while those highly-involved ACG fans only heard of or roughly knew about this documentary.^f

Therefore, features of key opinion leader group during communication process of *Masters In Forbidden City* could be revealed—they are groups of long-tail BILIBILI users who have extensive appetites including ACG culture. As a listed company, although first founded as a virtual community for Chinese ACG fans, BILIBILI has also attempted to expand its user group. Nowadays, it has various modules and special pages for movies, TV shows, pets, fashion, as well as documentary and so on. This commercialized expansion leads to variety of audiences, those ardent semi-professional ACG fans who gathered here at first contribute to most User Generated Contents (UGC), core competitiveness, and main customer loyalty of the website, while others make effort to large visitor volume and information exchange between BILIBILI's ACG culture and other cultural communities. This distribution of users could be explained by Long-tail theory. In 2004, based on Power Laws and Pareto Distributions, Chris Anderson, editor-in-chief of Wired Magazine first raised the concept of Long-tail in order to explore new business model of Internet commerce. Long-tail theory claims that, although only a few types of products account for the majority of the market volume(the body), the tail, or collection of related niche markets, can sometimes equal or exceed the body.^[9] In this case, once users from different modules such as TV shows, documentary, and movies were attracted as a result of interesting content and micro narration, most low-involved marginal users got together naturally, various niche markets integrated, hence *Masters In Forbidden City* achieves an impressive success in Internet popularity that no one else has ever imagined. (Fig. 1)

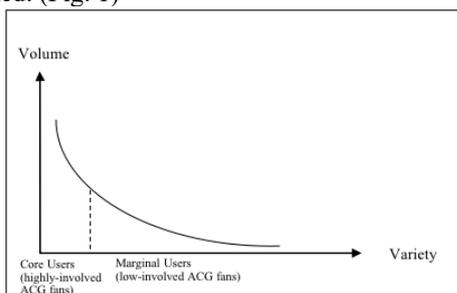


Fig. 1. The Long-tail Model of BILIBILI

3.2 Cultural omnivores: A bridge between sub-cultural group and the mass.

Youth sub-culture has been a well-recognized topic for culture researchers since Chicago School and Birmingham School. The reason is quite obvious because cultural expressions of young people tend to be

different from established mainstream culture wherever in USA or UK. Same condition also applies to China.

Developed from ACG sub-culture, BILIBILI used to be a virtual community of semi-professional ACG fans, however, this situation changed since continuous popularization of video website such as YouTube. Owing to technological development and wildly use of smartphones for entertainment, millions of fresh users flocked in BILIBILI due to cutting-edge cultural information and diverting inter-cultural content, and therefore stratification among different user groups comes into being.

Fig 2 presents stratification and distribution of BILIBILI users under macro cultural environment. First of all, similar to Fig 1, users of BILIBILI are stratified according to different level of involvement in BILIBILI's original core culture—ACG sub-culture. The inner barrier between core users and marginal users are solidier than the peripheral barrier between marginal users and the mass. Core users are usually semi-professional ACG fans who highly involved in ACG sub-culture, meanwhile, as a result of high involvement, these core users appear to hold great creative enthusiasm in making User Generated Content, it is their videos, vlogs, and live streams define cultural identity of BILIBILI and differentiate BILIBILI from other video websites. In contrast to core users, marginal users are usually low-involved ACG amateurs who enjoy both ACG culture and mainstream culture, because of their extensive interests, these marginal users prefer browsing rather than creating, communicating with different people inter-culturally rather than inside one small cultural field. It is their trans-boundary activities enlarge and amplify influence of BILIBILI in marco cultural environment—just like bridges.

"These young people(key opinion leaders) enjoy sharing, they are different from our traditional users — otaku(s), they are the reason why BILIBILI survived in today's commercialized Internet culture, while ACFun^g didn't. They transmit interesting videos to different SNS website such as Weibo(Chinese Twitter) and Moments(Chinese Facebook). Once liked, commented, forwarded or reposted by public accounts or famous bloggers, content of our website will be unfolded to the public and popular culture, more people will be attracted and join our website—that's how we enlarge our users groups."^h

^g ACFun used to be BILIBILI's biggest competitor at the initial stage of Chinese video website industry, both companies aimed at ACG fans who desired qualified content and virtual community of animations, comics and games. However, since volume of BILIBILI surpassed ACFun in 2012, The company's development is becoming more and more sluggish.

^h Same to footnote d.

^f X. YANG, project operation manager and big data analyst of BILIBILI. Interviewed by Gaoya JU, Shanghai, China, 23rd Jul. 2018.

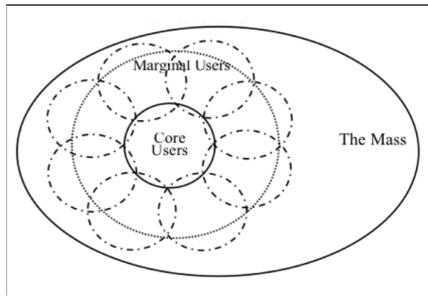


Fig. 2. User Stratification and Distribution of BILIBILI

Secondly, characters of marginal users are not as identifiable as core users due to their diversity. Different from core users, marginal users are aggregations made of various small interest groups which means despite their common interest in ACG culture, marginal users themselves could varied from each other distinctly—some may enjoy documentaries better than movies, while others may prefer fashion than documentaries—this distribution pattern could be explained by family resemblance principle by Wittgenstein(1953)^[10]. Moreover, it is this diversity expand the cultural appeal of BILIBILI and attracts outsiders like flower petals, while the core components of ACG fans are comparable to the pistil. According to F. Zhang, the then vice president, although BILIBILI is comparatively leading in the entire ACG field, only 1% of users create UGC, 9% of users are keen on communication, and the remaining 90% merely consume and enjoy these UGC content.ⁱ

Despite market and management reason mentioned before, causes of this petal-like module can also be enlightened from a perspective of cultural omnivore theory. It is intriguing to find out a virtual community that was originally created as a youth subculture community eventually evolved into a welcoming multi-cultural kermis. Concept of cultural omnivore can be very helpful in examining the causes. Cultural omnivore was first raised by Peterson(1992)^[11]. In his article, Peterson argued that nowadays, what cultural stratification Bourdieu(1980)^[12] mentioned is not as applicable as before, modern elites enjoy both classical culture and popular culture, while others can't have that much choices, popular culture turns out to be their only option. As a result, a new cultural stratification paradigm of Omnivore-Univore should be applied in place of Elite-Mass paradigm. In this case of *Masters In Forbidden City*, characters of key opinion leader group match features of cultural omnivore very well. Thereby, according to Hahl, Zuckerman and Kim(2017)^[13], incentives lead to people's transformation to cultural omnivores are always cultural capital related, cultural omnivores tend to be people who try to break existing social stratum and achieve class mobility by gaining extra cultural capital. In this respect, increasingly number of marginal users is not only a consequence of commercialization of the website, but also a emergence of users' semiotical cultural practices.

ⁱ Same to footnote d.

3.3 Complex Process: Development of AIINDAS model

While analysing consumer behaviors, different researchers adopt different models and methodologies. In traditional marketing theories, AIDA (Attention, Interest, Desire and Action) process is considered as a typical process of consumer behaviors. While in art and cultural marketing studies, Lin(2017) proposed a new model named "AIINDAS" which contains three more steps than AIDA: investigating, nesting, and stamping^[14](Fig.3). Does this model also apply to Internet based cultural consumption process?

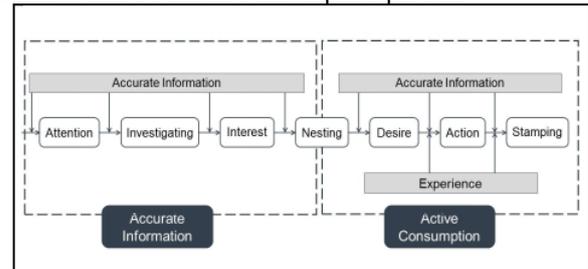


Fig. 3. AIINDAS model raised by Lin(2017)

3.3.1 Filtrating under the framework of family resemblance

On the basis of discussion over identities, roles and vitality of communicators as well as their economic and cultural motivations, analysis on their behaviors of meaning construction and decision-making becomes possible. Online cultural audiences are undoubtedly distinct from conventional offline audiences, regardless of whether they are sub-cultural. On the one hand, the unfathomable size of cyberspace attracts a wide variety of online consumers, while on the other, the mesh-bonding network generates plenty of embedded inter-activities between different cultural groups. Audiences are authorized to take the initiative to develop their own culture, meaning, and symbol. Pro-sumers are overwhelming the consumers. Just like Beer and Burrows(2010) mentioned, "One of the outcomes of this posting of narratives and images depicting everyday life[on interactive online communities like BILIBILI] is that these sites then come to inform those that encounter their content. As such, we can imagine that they provide a framework for judgments about cultural norms and values. As with any other cultural artifact they are rich with meanings and symbolism that is open to interpretation."^[15] Similar conclusions are supported by other scholars, for example, White(2010)^[16] analysed how Internet technology of eBay help establishing users' viewpoints towards gender norms and domestic behaviors and how conventional assumption that website could liberate and empower the minority is challenged by modern practice. There are also scholars such as Pauwels(2012)^[17] who tried to depict cultural frameworks of websites in order to quantify different ways of cultural expressions online. It could be noticed that the existence of cultural framework as a consequence of Internet technology and active consumers is academically consensual. For cultural

community like BILIBILI, this framework tends to be vague but perceivable.

"We can't come to any conclusion of this conventional logic or criteria[of BILIBILI users] from big data. Our users have their own way of judgment which may possibly simplified as 'loveliness'. Plain contents can be appreciated once deemed as 'lovely' enough, well-made contents uploaded by famous producers can be seen as not 'lovely' once permeated with serious sermon or obvious rentability. Sometimes 'lovely' equals creativity, assiduous study; sometimes it equals good faith and sincerity. "^j

This "loveliness" criterion still has a fairly broad extension. It is explicable just like any other cultural symbols or artworks. However, the explanation is not infinite, it should be conducted within the boundary of BILIBILI's cultural framework. In this framework, only contents that "family resembled" to criteria of "loveliness" can be accepted, while others will be filtered. For instance, content of *Masters In Forbidden City* resembles creativity, sincerity and non-rentability in one film. It represent not only Chinese traditional culture in respect of relic restoration, but also ordinary working technicians who devoted themselves to relic restoration regardless of pecuniary temptation outside the museum. By contrast, a negative case about the Forbidden City is *The Forbidden City 100*. As a well-organized documentary, *The Forbidden City 100* picked 100 pieces of meaningful relics, uncovered historical stories and cultural knowledge of each in 5 minutes. Similar to *Masters In Forbidden City*, *The Forbidden City 100*'s fragmented narrative structure was also intended for young audiences, however, its influence and effect are very limited. Cost much more expenditure and uploaded years earlier, *The Forbidden City 100* only received 178,000 hits on BILIBILI while the number of *Masters In Forbidden City* is 4,603,000—contents of *The Forbidden City 100* has been filtrated and kept away from main audiences of BILIBILI.

3.3.2 Ergodicity : an extension of cultural experience

In addition to family resemble logic of cultural framework, communication processes inside virtual communities like BILIBILI are also noteworthy. After entering certain framework, communication process of cultural information are turned from intercultural to organizational. From marginal users to core users, meanings are destructed, refreshed, reinterpreted and reconfigured. None of these variations is isolated since users online are always topologically connected, and processes are ergodic rather than consecutive. Ergodicity is a mathematical concept based on and in consist of Markov Chain theories. There are situations that sometimes no matter how original state or conditions vary, complex uncontrollable stochastic process such as machining or dynamic system will end up with statistical

equilibrium after certain time of processing, this situation is the so called ergodicity^[18]. Although mostly applied in mechanics and dynamics, this theory can be transplanted to studies on meaning construction of characteristic cultural community. Firstly, ergodicity contains two characters, short-term chaos especially at the primary stage, and long-term equilibrium once stabilized, these two characters are sufficiently similar to framework construction experience of sub-cultural recognition. Secondly, ergodic process is different from consecutive process, it emphasize fundamental influence of previous procedures on later procedures, relationships among subjects and texts are more complex than oversimplified combining or relaying. This dynamic instead of statical process perfectly describes cultural tensions between individuals and the group, core cultural group and marginal cultural group, sub-cultural community as a whole and mainstream culture. It is during this ergodic process, cultural information and its meaning keep updating all the time, texts and interpretations vary from moment to moment, while deeply inside, people's recognition and identity are established, tempered and unified.

"It is interesting that our users took 'masters'(technician of relic restoration mentioned in Masters In Forbidden City) as their new idols. They communicate with each other following conventions of ACG fans culture. For them, 'masters' are their motivations of watching, reviewing, and recommending documentaries, not Chinese culture. They made this documentary into another thing."^k

3.3.3 Dynamic information: take the place of accurate information

Today's online virtual environment is innovatory different from traditional offline environment. Just as McLuhan(1994)^[19] mentioned, what we know make what we are. Media technology itself could be deemed as part of human being because once the way we see the world changed, the world we know changed. Considering spanning development of mobile devices and wireless Internet, the most significant change today may possibly be people's shifty perception of space^[20].

Space is vital to traditional off-line cultural products and activities, because most of them are experiential and immersive. However, the emerging of virtual space based on Internet interaction destroyed and contracted people's perception of space. For online cultural consumers, consumption is usually fused with active Internet communication, especially in UGC virtual community, we-media platform and SNS ecology. The important role of cultural space is gradually replaced by virtual community and interactions inside. Online cultural consumption is endowed with the attribute of communication, that's why variable dynamic information turns out to be more favourable than concentrated accurate information, the failure of *The*

^j Same to footnote f.

^k Same to footnote d.

Forbidden City 100 mentioned before is a suitable example for this context change.

To conclude, as a development and specification of AIINDAS model, this article proposes two behavioral changes and one context change. Under the circumstance of global digitalization, young online cultural consumers prefer communal dynamic information to traditional accurate information. Their behaviors therefore change gradually compared to previous AIINDAS model: "investigating" may possibly be simplified into filtrating following family resemblance principle, while "experience" can be complicated as "experience and ergodicity" (Fig.4).

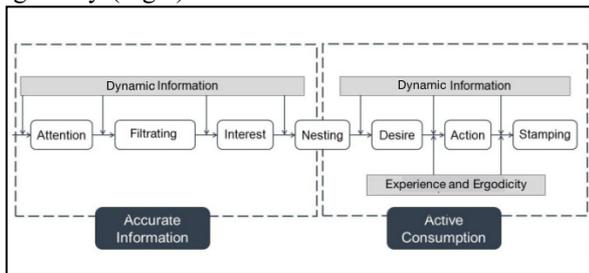


Fig. 4. A complement of AIINDAS model based on online cultural consumer behaviors

4 Conclusion

In summary, by doing case study of *Masters In Forbidden City*, this article analyses subjects, processes and reasons of an unpredictable change of BILIBILI users, fits cultural consumer behavior theories in a virtual online environment. Main conclusions of this article consist of four parts. First of all, adopted long-tail theory, this article divides audiences of BILIBILI into highly-involved core ACG fans—the body, and low-involved marginal omnivore—the tail. Secondly, despite the different ways in which these two groups work, it is the latter who take the role of key opinion leader during the external communication process. Thirdly, this article illustrates a petal-like model of audience stratification and distribution from the perspective of cultural stratification in order to show the pattern of intercultural communication among various online cultural groups. Lastly, combined the case with cultural framework theories raised by previous scholars, this article suggests a framework of family resemblance in filtration of dynamic information and ergodic cultural consumer behaviors inside virtual community, these points could be seen as complements of AIINDAS model under the circumstance of online cultural consumption.

As an enlightenment for further studies, this article could be developed by contesting the result in other examples such as traditional media contents, scientific documentaries and so on. For historical culture documentary film like *Masters In Forbidden City*, this article provides a new insight into young online cultural consumers and their behaviors, therefore, problems of aging audience may be enlightened to some extent. Additionally, the complement of AIINDAS model can be further discussed from others aspects such as: to what extent can big data, computer algorithm and artificial

intelligence influence online consumers' filtrating behaviors? What's the differences between online and offline active consumption, is it possible for them to interact on each other? Both conjectures require further exploration.

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