

Research on International Communication Effects of Chinese Culture Based on YouTube

Jingyi Wang^{1a}, Chong Zhang^{2b*}
^a xk18wjy@126.com, ^{b*} zhangchong@blcu.edu.cn

¹Department of Information Science, Beijing Language and Culture University, Beijing, China

²Department of Information Science, Beijing Language and Culture University, Beijing, China

Abstract. China has paid more and more attention to the issue of "Chinese Culture: The "Going Out" Strategy". The strategy has become the top-level strategy of China. Promoting cultural communication is of great significance for enhancing China's international influence and international discourse power. The study constructs data indicators that show the effect of international communication of Chinese culture based on international social media data. Starting from the three-stage communication effect of audience cognition, attitude, and behavior, this study uses Python to get, process and analyze YouTube videos and review data and then build the consensus index for three layers of culture. The results show that the consensus degree of Chinese cultural value is increasing year by year, but there are differences in trends of consensus degree index of different layers.

Keywords: International communication effect of Chinese culture; YouTube data; value consensus index

1 Introduction

In the process of international cultural dissemination, the continuous rise of social media and content sharing websites has become a trend. As an international social media and video sharing website, YouTube occupies a prominent position in global communication. Nowadays, China is promoting the "Chinese culture going global" strategy. However, current strategies and policies for social media cultural communication are still in a weak stage. Besides, researches related to social media cultural communication are relatively scarce. The video comment data in YouTube reflects public's sentiments and attitudes towards a certain topic. The data can be used to dig out the sentiments and attitudes of overseas audiences towards Chinese culture, which is of great significance to Chinese cultural communication in the new era. Main contents of this paper are as follows:

- (1) Construct a cultural value consensus index based on YouTube videos and comments related data. This index characterizes the changing trend of overseas audiences' understanding and acceptance of Chinese culture over time to a certain extent.
- (2) Select English benchmark keywords of different layers of culture and use KeyWordTool to expand the benchmark keywords in YouTube. Use expanded keywords to query on YouTube to get relevant videos. The video and comment data of the screened videos are crawled using Python crawler.

(3) Use comment data to synthesize cultural value consensus indexes for different layers of culture, explain the characteristics of the value consensus index change of different layers and analyze the reasons.

(4) Based on the above results, provide relevant suggestions for further improving Chinese cultural international communication capabilities.

At present, many domestic scholars have made some achievements on Chinese culture's strategy of going global. Theoretical circle has mainly carried out related researches from the following aspects. In the research related to the basic concepts of culture, Huang Yunhong [1] divided culture from the inside and outside into the material layer, relationship layer and conceptual layer according to the three-layer theory of the concentric circle model; Ren Chengjin [2] combined with the historical background of China, pointed out the three aspects of cultural going out: Chinese culture has a high degree of international recognition, enjoys a high degree of popularity and reputation; Wang Xinyan [3] pointed out that the purpose of Chinese culture going global is to let people in other countries understand and accept Chinese values and realize the value consensus of different cultures. The use of online behavior data to measure public opinions has been gradually developed. Chew C proved the potential of using social media for public health "information meteorology" research [4]; Scharkow M proposed that search engines can be used as a powerful supplement to traditional voting methods, representing a new aspect of the public agenda [5]; Chen Yunsong used Google Books big data to gain a 300-year international reputation for Chinese cities Measure the changes and characteristics of the public [6]. A small number of scholars have tried to evaluate the effects of the international dissemination of Chinese culture. Wu Ying [7] conducted a questionnaire survey on 16 Confucius Institutes in 5 countries. Xu Xiang [8] selected YouTube videos with a certain degree of popularity as the object to analyze the status quo, effects and characteristics of the international communication of Chinese culture. In general, the current domestic use of big data to

Table 1. Benchmark keyword Expansion

Benchmark keywords	Expand keywords
Chinese clothing	China clothing, Chinese clothes, Chinese online clothing, Chinese dress
Chinese traditional clothing	Chinese traditional dress, traditional Chinese clothing male, traditional Chinese clothes
Hanfu	Chinese hanfu, hanfu dress, hanfu clothing, Chinese hanfu dress

measure and interpret the effects of Chinese culture in international communication is still lacking. Although a few scholars have tried to evaluate the effect of Chinese culture "going in" from the perspective of the audience, existing evaluation studies have problems such as single data sources, strong subjective factors, and one-sided research perspectives. Based on the studies above, this study uses Internet data to construct related indexes, and monitors and evaluates the effect of Chinese culture "going in" from the perspective of big data. This data

can provide data support and decision-making reference for relevant domestic departments and institutions, and assist its actual dissemination effect.

2 DATA COLLECTION AND PROCESS

The rise of social media and content sharing websites in international communication is the trend and driving force. As an international social media and video sharing website, YouTube occupies an increasingly prominent position in global communication and the construction of global public opinion. This study uses YouTube videos and comment data to construct a Chinese cultural value identity index. This data can, to a certain extent, characterize the understanding and acceptance of Chinese culture by foreign audiences.

2.1 Video and comment data crawling

The study use the benchmark keywords in Table 1 to search on YouTube to get all the videos related to the searched keywords and tags. The study uses Python crawler to get brief information about videos on this page, including video title, video URL link, video duration, video text description, and the number of viewers. Through the video URL link, the study further crawls the video release time, the number of viewers, the number of likes and dislikes, the number of comments, and all the content of the video. For each comment, this study crawls the number of likes, comment time and comment content.



Fig. 1. Chinese Cultural Value Consensus Index



Fig. 2. Chinese Cultural Value Consensus Index for Layers

2.2 Data processing

This study only uses all English language comments in the comment data. Therefore, after crawling the initial data, it is necessary to remove all non-English language comment data. This study uses Python's Langid toolkit to remove all non-English data. After removing non-English language, blank and invalid comment data, there were 31,150 comment data in 8 years.

2.3 Sentiment analysis

This study uses sentiment analysis tool MeaningCloud to perform sentiment analysis on all English comment data, the tool will obtain a sentiment label (P+/PNE/NEU/N+/N) and its confidence for each input text. The score of P+ is defined as 1, P is 0.5, NONE and NEU are 0, N is -0.5, and N+ is -1.

3 value consensus index synthesis and analysis

This study aims to monitor the trend of overseas audiences' understanding and acceptance of Chinese culture over time. Therefore, for review data, based on its cultural classification, it is reclassified according to its release date, with an annual granularity. For each comment, calculate its emotional polarity score according to (1).

$$\text{SentimentScore} = \text{tag} * \text{confidence} * 0.01 * \text{weight} \quad (1)$$

Tag is the value corresponding to the emotional polarity tag of the comment data, weight is the weight of the comment when synthesizing the annual value consensus index, and the weight is calculated as the number of likes of the comment/ Likes and sums of all comment data in the year.

By re-categorizing the review data according to the year and synthesizing the emotional polarity scores, this study finally obtains the changes in the value consensus index of culture and various layers of Chinese culture as shown in Fig. 1. and Fig. 2. It can be seen from Fig. 1 that the overall acceptance and understanding of Chinese culture by overseas audiences has increased in

the past 8 years, but its growth trend only appeared in 2013-2015 and 2016-2017, and the growth rate in the first segment is slow. Fig. 2 shows the changes in the value consensus of each layer of culture in seven years. It can be seen that the audience's acceptance and understanding of Chinese conceptual culture has hardly improved in the past eight years.

The cultural value consensus index of the material layer has the fastest growth. This is closely related to the increasing frequency of world cultural communications in recent years. For example, documentaries promoting Chinese cuisine such as "China on the Bite of the Tongue" have been broadcast overseas, and more and more people have developed a keen interest in Chinese food culture. The cultural fruits accumulated over five thousand years of history and the novel and unique program content have deeply attracted overseas audiences, prompting them to deepen their understanding. Food culture has been widely disseminated in this process, and the easy-to-acceptable way of dissemination has made the audience easily fall in love with Chinese culture, which deepens their consensus on Chinese culture.

The growth rate of the relationship layer is slightly lower than that of the material layer, but the overall trend of the index is good. In terms of festivals, the reason for the increase is that as the number of overseas students and expatriates increases, cultural communications between China and foreign countries have become more frequent; in addition, more and more blocks with Chinese characteristics such as Chinatown have established overseas. The phenomenon of festivals builds a favorable platform for the spread of Chinese culture overseas. More foreigners have a basic concept and knowledge of Chinese festivals, and gradually understand and recognize the cultural characteristics of Chinese festivals, are attracted by their uniqueness and richness, and slowly participate in the activities of celebrating Chinese festivals.

The index of the conceptual layer has the slowest growth rate. The main reason is that each civilization has its own unique way of thinking, aesthetic taste, and value concepts. Taking film and television dramas as an example, South Korea and the United States have a sound foundation for the film and television industry. Korean film and television dramas and variety shows have a high audience and acceptance in Asia, and Hollywood in the United States is the world well-known film industry. In this context, its own cultural industry products are sufficient to meet the cultural needs of its citizens, so the demand for foreign culture is not high, and the recognition and acceptance of Chinese culture is low.

Overall, more and more people are deeply attracted by Chinese culture and have generated value identification. This is inseparable from China's efforts in international communication in recent years. The increasing national power brought about Chinese medias' right to speak in the international arena. At the time, Comrade Chen Long, director of the Xinhua News Agency's external news editorial department, pointed out: In the early days, China's external communication was more one-way communication. It is easy to be taken out of context by the Western media and fail to achieve the true effect of cultural dissemination. With the improvement of national strength, China's international circle of friends has grown larger and new media has continuously sprung up to contribute its own strength coupled with the innovation of traditional media in communication methods. Xinhua News Agency, People's Daily, China Daily delivered their original reports around the world on Twitter, Facebook, YouTube and other overseas social media platforms. New media reports use real-time, interactive and other social attributes to provide timely feedback on the audience's reactions. The introduction of official accounts,

mini programs, and web pages has brought China's external communication into a multi-directional communication stage.

4 Conclusion

This study uses YouTube video comment data to construct a cultural value consensus index to measure the audience's understanding and acceptance of Chinese culture. Through sentiment analysis of relevant video comments, the study obtains the annual sentiment polarity scores of different layers of culture, which can reflect the trend of overseas audiences' sentiment towards Chinese culture. Among them, the value consensus value of the material layer and the relationship layer is higher than that of the concept layer, indicating that the culture of the material and relationship layer is more acceptable.

Therefore, when promoting the spread of Chinese culture to the world, we should have a goal. For example, food culture has a good spread effect, when Chinese culture goes out, we can increase the publicity of Chinese cuisine and introduce Chinese cuisine to the world through more diversified forms. Moreover, the communication methods of different countries must have their own characteristics and fully respect the traditional customs and values of the target country.

Acknowledgment

This research was supported by MOE (Ministry of Education in China) Project of Humanities and Social Sciences (Project No.20YJCZH223) and Education and Teaching Reform Project of Beijing Language and Culture University (Project No.XJG201916)

Chong Zhang, Corresponding author, associate professor of Beijing Language and Culture University.

References

- [1] Huang Yunhong. A Comparative Study of Cultural Hierarchical Structure Models[J].Journal of Guiyang University (Social Science Edition),2013,8(02):7-10.
- [2] Ren Chengjin. Any of Chinese culture to go out into gold historical reference and Realistic Choice [J] Central Plains Journal, 2015 (02): 91-97.
- [3] Wang Xinyan. Chinese culture going out: meaning, purpose and path[J]. Jianghuai Forum,2020(03):5-11+2.
- [4] Chew C, Eysenbach G. Pandemics in the age of Twitter: content analysis of Tweets during the 2009 H1N1 outbreak[J]. PloS one, 2010, 5(11): e14118.
- [5] Scharnow M, Vogelgesang J. Measuring the public agenda using search engine queries[J]. International Journal of Public Opinion Research, 2011, 23(1): 104-113.
- [6] Chen Yunsong, Wu Qingxi, Zhang Yi: "International visibility of Chinese cities in the past three hundred years: description and regression based on big data", "Society" 2015, Issue 5.
- [7] Wu Ying. Research on the Effect of Chinese Culture External Communication—A Survey of 16 Confucius Institutes in 5 Countries[J].Zhejiang Social Sciences,2012(04):144-151+160.

[8] Xu Xiang. Research on the International Communication of Chinese Culture—Based on Popular YouTube Videos[J].Journal of Chongqing University of Posts and Telecommunications,2014,26(03):129-133.