A Study on the Influencing Factors of International Cultural Communication in the Context of Media Convergence
Take @I am Guo Jierui and @Li Ziqi as Examples

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Abstract. The 20th National Congress of the Communist Party of China pointed out the need to strengthen the capability of international communication and enhance the influence of Chinese civilization. With the boom of Internet technology and the popularization of mobile terminals, it has become an important path to spread Chinese culture abroad through We-Media. This paper selects short videos posted by @Li Ziqi and @I am Guo Jierui, two video bloggers who spread Chinese culture abroad, and comments and bullet comments, or real-time comments in those videos as the research objects. Crawler technology is used for data acquisition, HMM model based on Chinese character word formation ability is used, Viterbi algorithm and other big data analysis methods are used. The paper studied the communication characteristics and influencing factors of Chinese people and foreigners in the spread of Chinese culture. In the perspective of international cultural communicators, the results provided some suggestions for Chinese culture going abroad.

Keywords: International Communication of Chinese culture · Capability of international communication · Short video cultural communication · HMM model

1 Introduction

With the advent of the era of communication globalization, international cultural communication is increasingly becoming a new way of interaction and communication among members of societies with different cultural backgrounds. Short videos are simple to make, rich in content, and highly communicative, making them not only an important channel for people obtaining information but also one of the important carriers of international cultural communication. Online celebrity accounts represented by @Li Ziqi and @I am Guo Jierui have attracted much attention. As of October 23, 2022, @Li

Ziqi had 7,796,000 fans on BiliBili, a leading video platform popular among China's younger generation, and @I am Guo Jierui had 7,051,000 fans. @Li Ziqi is a typical representative of spreading Chinese culture abroad, viewing China's idyllic and picturesque pastoral culture from the perspective of Chinese people. @I am Guo Jierui, on the other hand, surveys Chinese culture from the perspective of a tourist in China, who understands, experiences, analyzes, and promotes Chinese culture to the rest of the world as a Westerner. The study aims to bring some enlightenment to the spread of Chinese culture and promote the influence of Chinese voices in the international network by comparing and analyzing the Internet celebrities who spread Chinese culture from different perspectives. It is necessary to continuously innovate and develop the spread of Chinese culture through the study and analysis of special features of short videos with great influence.

2   International Communication of Chinese Cultures' Author Profile

2.1   @Li Ziqi

Li Ziqi's videos focus on traditional Chinese pastoral culture, traditional ethnic costumes, and food production in ancient style. Besides, she pursues the idyllic beauty in every frame beyond the toil of farming and the leisurely and relaxed feeling of rural life [1]. Since Li Ziqi opened her account and released her first video on the YouTube platform in 2017, the total number of views of her videos on the platform alone has exceeded 1 billion. All of her videos are divided into three columns. The first column is the Life series which is mostly titled The Life of XX [1]. The contents are mostly the complete process of a crop from sowing to harvesting and finally to the finished product, and the proportion of this series occupies 76% of the total number of videos [2]. The second column is Oriental intangible cultural heritage including some Chinese intangible culture, such as blue dye, the 'scholar's four jewels (writing brush, ink stick, ink slab, and paper). The third series is traditional cuisine, which is about traditional Chinese meals. As a successful case of telling the Chinese story, Li Ziqi's way of narration is beneficial for the subsequent videos to broadcast Chinese culture.

2.2   @I am Guo Jierui

The author of the account @I am Guo Jierui is Jerry Kowal. He studied in China, during which he developed a keen interest in traditional Chinese culture. He is willing to learn more about it, especially about Chinese food culture. Secondly, Chinese narration is one of his strengths in culture broadcast. The strange Chinese intonation makes the video feel strange even though it is spoken in Chinese, but it is a characteristic of him [3]. The videos are all in Chinese with Chinese subtitles, dialogue, and narration, which helps to form an emotional identity with his fans.

3   Method and Data Analysis

In terms of sample selection, the paper selected the names of all the videos of Chinese culture released by @Li Ziqi and @I am Guo Jierui on BiliBili, as well as the comments and bullet comments of the top ten most viewed videos. Then, the text is segmented by 'Jieba' Chinese test segmentation. The 'Jieba' Chinese test segmentation uses dynamic programming to find the maximum probability path for uploaded words and the Viterbi algorithm with the Hidden Markov Model (HMM) for words not uploaded. The Viterbi algorithm was introduced by Andrew Viterbi in 1967. It is a special but the most widely used dynamic programming algorithm. Any problem described by HMM can be decoded by the Viterbi algorithm, including word frequency analysis, speech recognition, and machine translation in text analysis. The Viterbi algorithm is to find the optimal of all the observation sequences, and it uses dynamic programming to reduce these repeated calculations. The algorithm records a triple for each state: (prob,v_path,v_prob), where prob is the result of adding together the probabilities of all V_path from the start state to the current state. V_path is the Viterbi path from the start state to the current state, and v_prob is the probability of the path. The algorithm starts by initializing T, which is a Map that maps each possible state to the triple described above, in a triple loop, and for each activity y, considers each possible next_state and recalculates how the next_state probability would change if it leaps from the current state in T to next_state. The leap is mainly considered for the joint probability. After considering all the next_states, find the optimal Viterbi path from T, which is the updated MapU code U[next_state] = (total, argmax, valmax).

The results are counted by word frequency and displayed in two word clouds. The left of Fig. 1 is the word cloud of video titles published by @Li Ziqi, and the right of Fig. 1 shows the word cloud of video titles published by @I am Guo Jierui. It is easy to observe that the video titles of @I am Guo Jierui focus more on the differences between cultures and curiosity about Chinese culture, while the video titles of @Li Ziqi mostly use 'when I was a child' and 'at home' as the titles, which tends to promote Chinese idyllic culture. @I am Guo Jierui is more of a Western guest's perspective on Chinese culture, while @Li Ziqi shows China's hidden rural culture as a Chinese. Words appear several times in their video titles such as food, delicious and traditional, and culture, which indicates the great influence of these themes in the international communication of Chinese culture.

Figure 2 shows the similarities and differences in the frequency of their video tags. Among the tags of all the videos posted by them on Bilibili, the unique high frequency tags of @I am Guo Jierui are daily, Waiguoren (or foreigners), VLOG, and funny, while those of @Li Ziqi are culinary culture, countryside, idyllic life, and handicraft. The common high frequency tags are food, culture, and life. By comparing those tags, it shows that the focus of foreigners represented by Jerry Kowal on culture spread is different from that of the Chinese people represented by Li Ziqi. At the same time, it also reaffirms the above phenomenon that Chinese culture, life, and food are highly concerned with culture spread. These topics with high frequency are effective solutions to the dilemma of international culture and it is easier to succeed in communication through topics that require less cultural deposits or in low context.
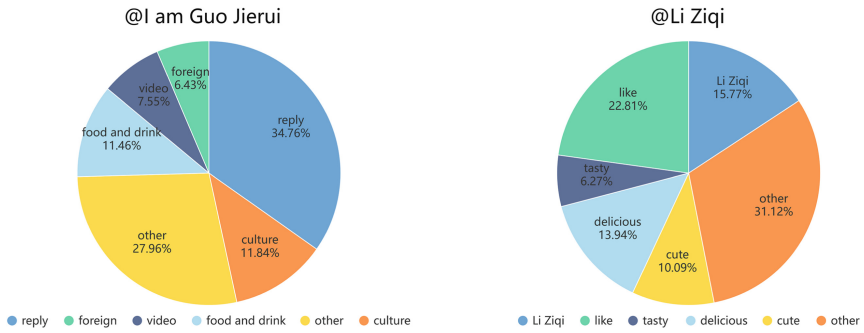
Fig. 1. Word cloud images of the video titles of @Li Ziqi (right) and @I am Guo Jierui (left)

Fig. 2. Video tags of @Li Ziqi (right) and @I am Guo Jierui (left)

Fig. 3. Relationship between video duration and video views for @Li Ziqi (right) and @I am Guo Jierui (left)

Figure 3 shows the relationship between the video views and duration of all videos posted by @Li Ziqi and @I am Guo Jierui on BiliBili, in which the x-axis is the video duration in seconds, and the y-axis is the video views in millions. Each point in the graph represents a video. Through the left figure of Fig. 3, it can be seen that the main videos of @I am Guo Jierui with the duration of 300s –400 s are also the most viewed. The right figure of Fig. 3 shows that the main video duration of @Li Ziqi is concentrated in the range of 200 s–400 s, while the highly played ones are over 400 s long. Through the above discussion, it can be seen that the videos of @I am Guo Jierui with high views appear in their most concentrated video duration, while the more viewed videos of @Li Ziqi are longer in duration.

Fig. 4. Word frequency analysis of top 10 videos of @Li Ziqi and @I am Guo Jierui

In addition, we can find the peak data of both videos in Fig. 3, in which the content of the highest-played video of @I am Guo Jierui is Chinese politics, culture, and food from the perspective of Westerners, and @Li Ziqi has the highest-played videos excluding the except for her lawyer statement, all of the videos are longer than 10 min with food related to Chinese rural culture.

Figure 4 shows a pie chart of the frequency of comments and bullet comments in the top 10 videos of @Li Ziqi and @I am Guo Jierui. The high frequency words of @Li Ziqi videos on the left are like, Li Ziqi, tasty, delicious, cute etc. The words show that the main subject of the videos of @Li Ziqi is herself, and the content of the video is centered on her life, which is a personal lifestyle to show Chinese pastoral culture. Comments express more feelings of longing and love. On the right is a pie chart of @I am Guo Jierui, in which the top five high frequency words are reply, foreign, video, food and drink, and culture. The comments are mostly discussing the content or recommending the subsequent filming.

4   Analysis of the Content Characteristics and Influencing Factors of International Cultural Communication Videos

4.1   Content Characteristics of International Cultural Communication Videos

The videos of @Li Ziqi focus on the traditional Chinese pastoral culture, traditional Chinese food, folk handicrafts, intangible cultural heritage, farming, harvesting, and processing. The videos show the complete process from sowing to harvesting, and finally to the finished products. Among all the videos on BiliBili, folk handicrafts, traditional food, and intangible cultural heritage account for a relatively large proportion [4]. The inheritance of traditional Chinese culture is presented through videos. They are not traditional introductory videos, but more like a kind of performance, which may not be real and comprehensive, but must be beautiful and poetic, fully reflecting the respect for traditional culture. Li Ziqi also explained that rural life is not always as beautiful as the video shows, and she just wants to show the beautiful side of it. Although it is not quite real, it has a unique Chinese beauty and is very popular among foreign netizens. In Li Ziqi's works, both the dialogue, narration, and Chinese subtitles are very rare, and the

mood is more often presented through body movements and behaviors. The non-verbal communication method, which is mainly based on body language, is used extensively to alleviate the communication barrier. It avoids the barriers caused by language differences to a certain extent, and the display of body movements and behaviors is not weakened by the limitation of language, thus reducing the resistance to spread culture [5].

The videos of @I am Guo Jierui are popular for their authenticity, as they are rarely staged and mostly consist of street interviews or personal food tastings or experiences. From his series of videos, it is easy to find that each video of Jerry Kowal has a fixed video production mode. All of them start with 'Hello, I am Guo Jierui, I am now in XX', ending with 'I am Guo Jierui.' The cover picture of the video is also one of his features. It is mostly the background of the video or the picture of food or experience, and Chinese text will be added to the cover picture to introduce the main content of the video or the location of the shooting. This not only attracts the viewer's attention, but also provides the most information needed by the viewer. The subtitles of the videos are also unique in that they are not only bilingual but also use punctuation marks to help express emotions, and often provide an additional explanation where ambiguities may arise. The video uses a lot of self-questioning, forming a virtual back-and-forth conversation, which makes the viewer more willing to interact with the video maker in comments and bullet comments, and the main topic of the video comes from these interactions.

Comparing the communication characteristics of the two videos, it can be found that the video works of @Li Ziqi are more aesthetically appealing, pursuing the beautiful and poetic side of rural life, and showing these scenes to the audience. Its video style is closer to that of a documentary, with most of the beautiful images being retouched. The @I am Guo Jierui video, on the other hand, pursues the authenticity of the video and tells the viewer the most real experiences and feelings, which is a low-context communication. In the video of @Li Ziqi, the main character Li Ziqi is often shown or performed in the video, with almost no interactive elements with the audience, and is shown in a fairy way. In contrast, in the video of @I am Guo Jierui, the interaction rarely stops, constantly taking the initiative to create and emphasize interaction with the audience. @Li Ziqi is a picturesque performance, while @I am Guo Jierui is a real dialogue between the air.

4.2 Identify the Headings

In the international communication of Chinese culture, the factors that greatly influence the effect are culture and communication barriers. The video of @Li Ziqi is essentially spreading Chinese rural culture, which has distinctive characteristics [6]. It is widely believed that Chinese culture encompasses identity and behavioral values. Therefore, even if it is translated into foreign languages to reduce the language gap, foreign audiences will have difficulty understanding. To solve this problem, the video of @Li Ziqi rarely contains text and voice, but more images to help audiences learn traditional Chinese culture. For this problem, first, Chinese is used in the video of @I am Guo Jierui to communicate and ease language barriers to some extent. However, Jerry Kowal's Chinese is not fluent, and there are even some expression errors. Although this has become one of the characteristics of his video, it also affects the interaction between him and his audience, resulting in many misunderstandings. Second, his videos often show his

Western thinking and habits. For example, when he explained the problem of racial discrimination in the United States, he attached importance to logic, concise and direct language, through simple examples and data to analyze the stereotypical impression of the American police on black people. But many of his audiences are difficult to understand the underlying reason is the historical problem. Although both of them alleviate the dilemma of international cultural communication to a certain extent, there is still much room for improvement.

In terms of topic, although the video of @Li Ziqi has opened up a new way to spread Chinese culture, its videos are too homogeneous, with 80% of them showing traditional specialty food. The Life series of works mostly record the process of a crop from sowing, and harvesting to finished products. @I am Guo Jierui focuses on food, travel, and daily life, the content of the two categories has high repeatability and little difference. The two tags often appear in the same video at the same time, which existed self-repetition to a certain extent. Both of them are trapped in the dilemma of topic selection, unable to find more breakthrough topics suitable for international cultural communication.

4.3 Problems in International Communication

Firstly, all of their videos are shot in the same way. The images of @Li Ziqi are quite beautiful, but there are many fixed shots and few motion shots. A lot of overhead panoramic and empty shots show the beauty of nature but slow down the pace of the video, resulting in a long video, which leads to a decrease in the completion rate of the video. The videos of @I am Guo Jierui are mostly close-ups and medium shots, with some shots switching abruptly and fewer changes, resulting in poor overall video coherence and easy visual fatigue of the audience.

Second, there is a negative communication effect. On the one hand, the videos of @Li Ziqi are aimed at foreign audiences and Li Ziqi's role in the videos is a princess in distress, which caters to the foreign audience. Its content shows pastoral life. However, because the Western media, represented by the United States, has long positioned China as backward, the wide spread of its videos abroad has made some foreign audiences think that China is still in a farming culture. On the other hand, domestic viewers often suspect that her videos are fake. Some of the videos of @I am Guo Jierui are criticized and suspected by Chinese and foreign audiences, which are exaggerated in the eyes of some Chinese people to cater to the public, while foreign audiences feel that Jerry Kowal is brainwashed by China and make false propaganda.

Thirdly, the content of the video is repeated. @Li Ziqi's videos focus on China's rural culture, and the shooting sites are mostly in her own vegetable garden. The backgrounds are repetitive and the topics are too similar, boring the audience after watching a lot of her videos. The topics of @I am Guo Jierui are mostly China's urban culture. Those videos promote Chinese culture from a perspective of a foreign tourist, with the topics of daily life and food travel, and the contents of the two categories are intertwined and less different from each other. In recent years, the number of imitators of these two video bloggers has gradually increased, which has exacerbated the lack of innovation in video topic selection.

Whether it is the repetition of the topic, the consistent way of shooting the video, or the negative communication effect caused by cultural and political factors, the effect

of the external communication of the video is seriously affected and its communication effect is greatly reduced.

5   Conclusion

The world today is undergoing major changes unseen in a century. In the face of the complex international public opinion situation, it is very important to improve the capability of international communication and master the right to speak. It is one of the new ways to spread Chinese culture outside of China to help local online celebrities and attract foreign online celebrities. It is necessary to give full play to the unique advantages of them to spread China and eliminate the stereotype of other countries, which requires more internet publication. It needs to call for more foreign online celebrities to investigate the changes and differences between urban and rural China to enhance their understanding of traditional Chinese culture, and it also requires more domestic foreign online celebrities to show hidden niche cultures. By doing so, it will help to present a more complete image of China to the world and make China more diversified and three-dimensional.

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