Research on the Operation Management Strategy of Cross Cultural Communication of Traditional Culture Short Video

Mingfei Ma

Universiti Kuala Lumpur, Kuala Lumpur, Alaysia

Abstract: *The conventional short video cross-cultural communication operation management method mainly uses SQL Server Analysis Services to extract the communication analysis factors, which is vulnerable to the impact of diversified recommendation of communication channels, resulting in the low short video comprehensive communication operation management coefficient. Therefore, it is necessary to design a new traditional culture short video cross-cultural communication operation management optimization method, that is, it analyzes the effect of short video cross-cultural communication, designs the optimization path of short video cross-cultural communication operation management, and thus improves the short video cross-cultural communication operation management strategy. The case analysis results show that the short video integrated communication operation management coefficient of the designed optimization method of the traditional culture short video cross-cultural communication operation management strategy is high, which proves that the optimization effect of the designed optimization method of the traditional culture short video cross-cultural communication operation management strategy is good, reliable, and has certain application value. It has made certain contributions to expanding the audience of short videos.*

Keywords: *Traditional culture; Short video; Cross-cultural; Communication; Operate; Administration; Strategy*

1. Introduction

We Media is a new way of information communication. It has good communication advantages. It can obtain information materials in real time and complete information interaction[1-3]. In 2016, short videos began to gradually integrate with We-Media, which set off an upsurge of online information interaction. The interaction mode of short video is relatively special. It integrates video, pictures and text to display information content in a diversified way, thus breaking the restrictions of time and space on information transmission[4-6]. In the digital era, the development of short video is faster and faster, and the competition of short video is becoming increasingly fierce. In addition, due to the development of the Internet, users have more channels to obtain information, and have higher requirements for the presentation of information. How to give play to their own advantages and improve the comprehensive competitiveness of short video has become a new direction of the development of short video We-Media.

The research shows that the foreign short video market is large and the competition is relatively moderate. The transmission of traditional short video to foreign countries is conducive to cultural exchanges, which is of great significance to the popularization of Chinese culture. Restricted by the content and communication characteristics of traditional culture, the audience often has an abnormal understanding[7-9], which leads to a low overall communication identity. Therefore, in order to effectively carry out short video cross-cultural communication, it is necessary to design a scientific and reasonable short video cross-cultural communication operation management strategy.

In recent years, the market segmentation of China's short video media has increased, and the overall competition has intensified. Therefore, the saturation trend of China's short video media is inevitable[10-13]. Under this trend, it is urgent to carry out short video cross-cultural expansion, reduce market saturation, and solve the survival crisis of short video. Short video operation management refers to improving the competitiveness of short video accounts through certain means, which has the role of diversion. Common short video operation management includes short video positioning, short video content planning, short video editing and shooting, short video post-production, short video diversion

and promotion, short video traffic conversion, short video data analysis, etc, These short video operation management methods can also be applied in short video cross-cultural communication[14-17]. Relevant researchers have designed several conventional short video cross-cultural communication operation management methods according to the operation management characteristics of short video, but most of them need to use SQL Server Analysis Services to extract communication analysis factors, which is vulnerable to the impact of diversified recommendation of communication channels, leading to low management comprehensive communication operation management indicators. In order to solve the above problems. This paper designs a new method to optimize the operation and management strategy of cross-cultural communication of short videos of traditional culture.

2. Optimization method design of operation and management strategy for cross-cultural communication of short video of traditional culture

2.1 Analysis of short video cross-cultural communication effect

The short video communication effect mainly refers to the recognition of the short video audience group to the content and the psychological change characteristics of the audience group. Therefore, it has certain macro characteristics[18-21] and is positively related to the audience feedback. Therefore, to improve the effectiveness of the short video cross-cultural communication operation management, it is necessary to analyze the short video cross-cultural communication effect in advance. Restricted by geographical and cultural differences, the interaction distance between short videos and audience groups is far, and the communication test is difficult. To solve this problem, this paper has built an effective short video communication effect analysis model, as shown in Figure 1 below.
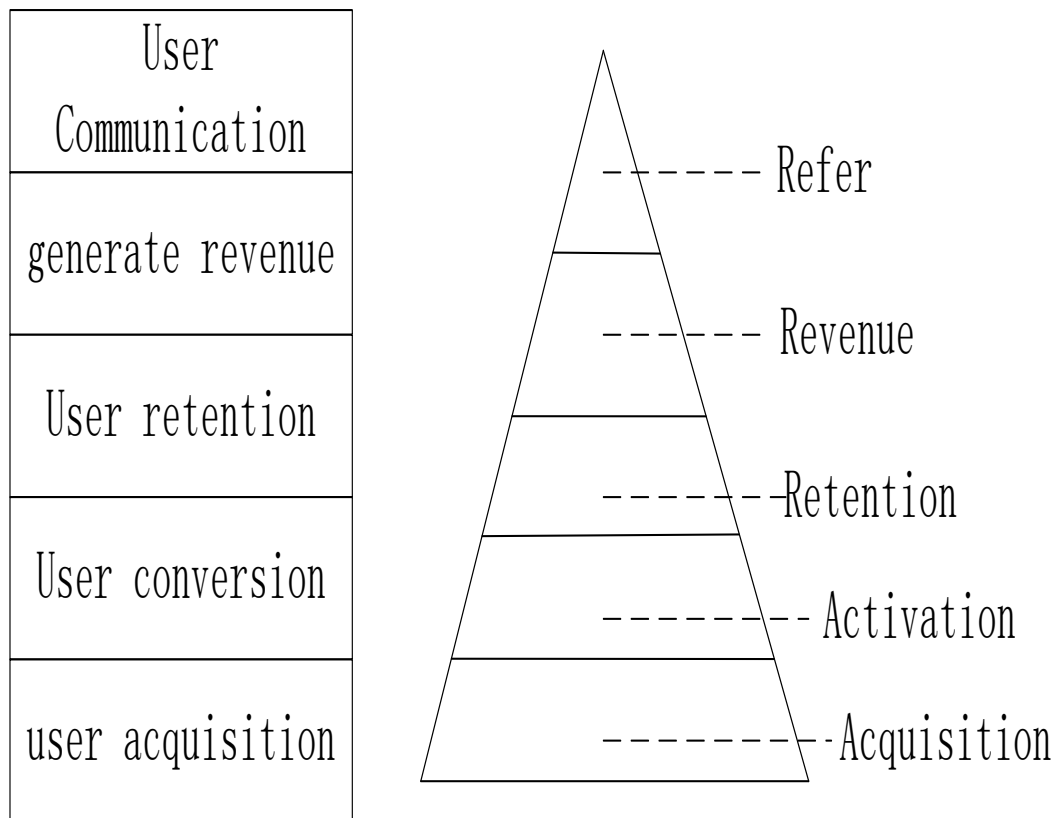

Figure 1: Analysis Model of Short Video Propagation Effect

It can be seen from Figure 1 that according to the above short video communication effect analysis model, the short video cross-cultural communication cycle can be effectively analyzed, and then the actual operation management status[22-24] can be judged according to the relevant activation relationship. The corresponding analysis framework of the short video analysis model is shown in Table 1 below.

Table 1 shows that according to the above short video propagation effect analysis framework, users can obtain the recommended propagation life cycle closed-loop, as shown in Figure 2 below.

Table 1: Analysis framework of short video transmission effect

| Analysis of Impact Factors on Short Video Communication Effects	function	think deeply	direction
Obtaining short video audience users	Improve the eye-catching power of short videos through various means, and target the target audience of short videos	Determine the type of short video users, how to create the attractiveness of short videos, and how to accurately resonate with users	Habits such as completion rate of short videos, role positioning of short videos, short video titles, topics, and release time of short videos
Activate short video audience	Make the obtained short video users a participant in the product	How to define active users of short videos and how to increase the experience of short video users	The likes, comments, emotional communication, and interaction status of short videos
Analyze the retention status of short video users	Users watch short videos multiple times and repeatedly use them to publish products, improving user stickiness	How to define short video retention users and how to improve short video user stickiness	Number of followers for short video accounts, common shooting techniques, quality of short video content, post editing and production of short videos
Gain revenue from short video operations	Carry out relevant commercial activities to obtain comprehensive income from short videos	What are the monetization methods for short videos and how to implement them	Short video advertising monetization, e-commerce monetization with goods, live streaming rewards monetization, platform subsidies monetization
Continuously promoting short video recommendations	Old users of short videos constantly recommend to new users, expanding short video dissemination channels	How to understand the psychological state of short video users and guide their dissemination	Short video forwarding volume, guided sharing, KOL mutual promotion, and multi platform distribution
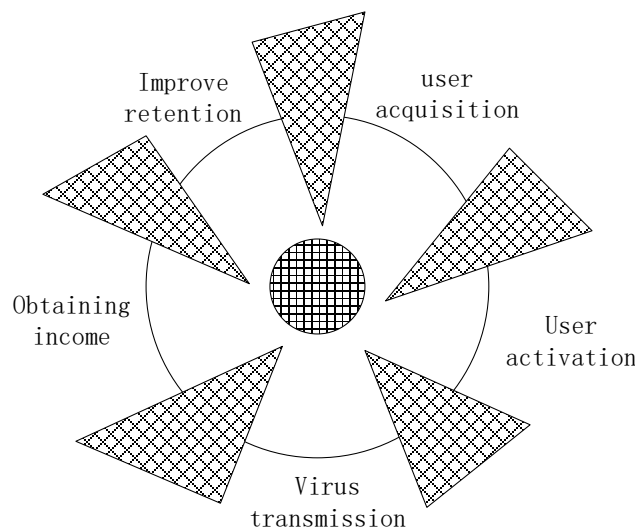
Figure 2: Closed loop of short video transmission life cycle

It can be seen from Figure 2 that the combination of the above short video communication life cycle closed-loop can effectively measure and analyze the communication status of short video accounts, carry out communication optimization, expand the number of audience groups, and improve the

comprehensive quality of audience groups.

In fact, the cross-cultural communication effects of short videos mainly include positive effects and negative effects. Even if foreign people understand Chinese culture, the positive effects can improve the recognition of Chinese culture overseas, and gain overseas fans, while the negative effects can mean that overseas people have a negative experience[25]. It can be seen that in the process of cross-cultural communication and operation of traditional cultural short videos, it is necessary to constantly establish the emotional connection of tasks, effectively interact with foreign people, and increase the interactivity of short videos.

The short video cross-cultural communication operation is a gradual process, which should not be rushed. It can actively accumulate cultural communication effects and effectively complete online and offline recommendations. Research shows that the negative effects of cross-cultural communication of short videos are mainly affected by cultural differences. Therefore, it is necessary to consider the cultural differences of overseas users and adjust the content of short videos in a timely manner.

2.2 Design optimization path of short video cross-cultural communication operation management

Combined with the above analysis of short video cross-cultural communication operation management effect, we can further design the optimization path of short video cross-cultural communication operation management. In fact, short videos have a certain perception delay, so we can set up a short video cross-cultural communication operation evaluation model from the perspective of cloud T_0, as shown in (1) below.

$$T_0 = T_1 + T_2 + T_3 + T_4 \tag{1}$$

In formula (1), T_1 represents cloud delay, T_2 represents management delay, T_3 represents end-to-end delay, T_4 represents the quantization delay, the user filtering schematic diagram generated according to the above evaluation model is shown in Figure 3 below.
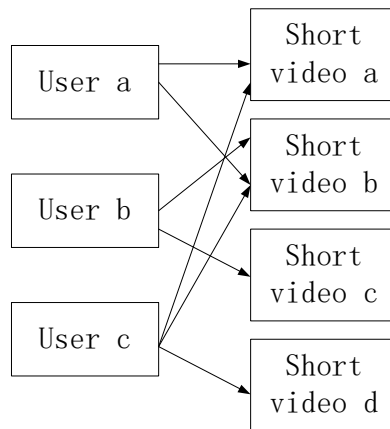

Figure 3: User Filtering Diagram

It can be seen from Figure 3 that effective user preference data can be obtained by combining the above user filtering schematic diagram, and the recommended information entropy calculated at this time $I(U)$ as shown in (2) below.

$$I(U) = -\sum_{i=1}^{n} p(u) \log p(u) \tag{2}$$

In formula (2), $p(u)$ represents the recommendation probability of short videos that meet the recommendation requirements. The recommendation conditions of different short videos are different, and the formula of recommendation conditions can be generated according to the actual interests of users P_V as shown in (3) below

$$P_V = \left| \frac{u_i}{v_j} \right| \tag{3}$$

In formula (3), u_i represents the recommended conditions set, v_j represents the basic attribute of recommendation conditions. At this time, the user interest model P generated according to the above recommendation conditions is shown in (4) below.

$$P = \{k_1, k_2, ..., k_n\} \tag{4}$$

In formula (4), $k_1, k_2, ..., k_n$ represents several interest short videos that meet user needs in the n-dimensional space, according to the user interest model generated above, the cross-cultural communication operation management mechanism can be obtained, as shown in (5) below.

$$IDF = \frac{f_{ki}}{\max f_{zi}} \cdot \log \frac{N}{n_k} \tag{5}$$

In formula (5), f_{ki} represents the number of times the keyword appears in the short video, f_{zi} represents interest word weight, N represents the number of short videos to be trained, n_k represents the number of short videos with keywords. According to the above generated short video cross-cultural communication operation management optimization mechanism, a variety of short video service information scenarios can be created to shorten the distance between short videos and audiences. From a micro perspective, a new space can be created to let foreign people enjoy China's unique traditional culture. To solve the problem of text differentiation, we can decompose symbols from short videos, optimize the display of values, increase the proportion of surface cultural communication, and reduce the impact of cultural differences on cross cultural communication of short videos. People pay high attention to daily life, so we can start from daily life, exchange and discuss basic short videos, timely feedback and optimize audience evaluation, and improve the infiltration of short video culture.

3. Example analysis

3.1 Overview and preparation

In order to verify the management effect of the designed optimization method for the operation and management of cross-cultural communication of traditional culture short videos, this paper takes the YouTube overseas short video platform as an example, and captures short video communication samples that meet the needs of case analysis, as shown in Table 2 below.

Table 2: Cross cultural communication samples of short videos extracted by YouTube

You Tube Channel	Short video	notes
Li Ziqi	Appreciate the prepared New Year snack special	Playback: 84830000 Comment volume: 47616
Ono Office	What about using a popcorn machine to make crayfish	Playback: 142620000 Comment volume: 18021
Yam Video	How to eat fish is the best way	Playback: 31160000 Comment volume: 3985
Food writer Wang Gang	Making soy sauce Fried Rice	Playback: 6980000 Comment volume: 6027
Grandpa Amu	Making a wooden arch bridge	Playback: 53800000 Comment volume: 23048
Biting Cat	Taoyuan Love Song	Playback: 6680000 Comment volume: 6618
Dianxi Little Brother	Delicious oil base meat	Playback: 40880000 Comment volume: 23048

It can be seen from Table 2 that the broadcast amount and comment amount of the domestic short

videos of the above cross-cultural communication vary greatly, and the operation methods used are different, which meets the needs of case analysis. In order to reduce the difficulty of case analysis, this paper introduces the above short videos into the SIMULA cloud service experimental platform, which has strong virtual analysis capabilities and meets the needs of high-level operation analysis. The platform mainly uses 3DEXPERIENCE cloud to complete high-performance operational computing. Therefore, it can conduct operational communication analysis and settings based on the user distribution and total number of users of YouTube's overseas short video platform, use the short video cross-cultural communication operation management optimization method designed in this paper to optimize operations, and output the final operational data. The high-frequency words and frequency obtained from the simulation example analysis platform are shown in Table 3 below.

Table 3: High frequency words and frequency

high-frequency words	frequency	high-frequency words	frequency
like	4125	videos	1112
love	23541	watching	1056
video	1225	watch	9654
life	8456	know	2536
beautiful	24669	really	1554
good	24693	work	2696
can	2556	amazing	5546
one	4485	make	3226
food	5532	see	4542
just	4236	bridge	8865

It can be seen from Table 3 that the propagation intention of different short videos can be obtained by perceiving the above high-frequency words and frequencies, and comprehensive recommendations can be made. At this time, the comprehensive operation management coefficient of short videos is taken as the experimental index, and the formula m_0 as shown in (6) below.

$$m_0 = \frac{q_a + q_b + q_c}{R_{zh}} \tag{6}$$

In formula (6), q_a represents the user activation index, q_b represents the user retention index, q_c represents the realization index, R_{zh} represents the comprehensive management index. The higher the short video comprehensive operation management coefficient is, the better the short video cross-cultural communication operation management effect is. On the contrary, the lower the short video comprehensive operation management coefficient is, the worse the cross-cultural communication operation management effect is. Combined with the above indicators, the subsequent operation management example analysis can be carried out.

3.2 Application effect and discussion

Combined with the above case analysis overview and preparation, the short video cross-cultural communication operation management results can be obtained, that is, the traditional cultural short video cross-cultural communication operation management method designed in this paper is used in the SIMULA cloud service experimental platform to operate, and the formula (6) is used to calculate the short video comprehensive operation management coefficient before and after the operation. The case analysis results are shown in Table 4 below.

It can be seen from Table 4 that after using the traditional culture short video cross-cultural communication operation management method designed in this paper, the short video comprehensive operation management coefficient of different short videos has increased, which proves that the traditional culture short video cross-cultural communication operation management method designed in this paper has good management effect, reliability and certain application value.

Table 4: Example Analysis Results

You Tube Channel	The comprehensive operation and management coefficient of short videos operated using the traditional cultural short video cross-cultural communication operation and management method designed in this article	Short video comprehensive operation management coefficient before operation
Li Ziqi	0.989	0.756
Ono Office	0.954	0.812
Yam Video	0.923	0.759
Food writer Wang Gang	0.968	0.778
Grandpa Amu	0.974	0.801
Biting Cat	0.925	0.854
Dianxi Little Brother	0.974	0.774

4. Conclusion

In the era of explosive growth of data and information, short videos are developing faster and faster, driving the development of e-commerce and making great contributions to China's economy. Influenced by the subdivision of short videos, the competitive pressure is increasing, and the domestic market is gradually saturated. Therefore, cross cultural communication of short videos is needed. The conventional short video cross-cultural communication operation management method does not systematically analyze the operation management effect, and the operation management effectiveness is poor. Under this background, this paper designs a new traditional culture short video cross-cultural communication operation optimization method. The case analysis shows that the designed operation management method for cross-cultural communication of traditional cultural short videos has good operation management effect, reliability and certain application value, and has made certain contributions to promoting the integration and development of short videos in China.

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