

# An Empirical Study on the Factors Affecting the Popularity of Short Dance Video -- A Case Study of Station B Dance Area Video

Xiaoyi Zhou\*

Department of Sociology, School of Public Administration, Zhejiang University, Hangzhou, China

\*Corresponding author: 3200106241@zju.edu.cn

**Abstract.** In recent years, the short video industry has developed rapidly in China. With the help of the Internet, which has great communication advantages, the short dance video, with its rich forms of expression, has made traditional dance art quickly show the characteristics of popularity and diversification, accounting for an important proportion in the short video market. This study explored the content elements that affect video popularity and their impact effects, and thus analyzed the aesthetic preferences of user groups for online entertainment short video works. This research uses content analysis, and stratified random sampling that was conducted for the dance works in the dance section of BilliBilli Video Ballscreen Network within a day. We took video content and likes, forwarding, coin dropping, collection and comments as the research objects. The music style, creation type, duration, background, and the number of dancers are encoded in six dimensions to conduct content analysis, define the popularity index, and analyze its influencing factors.

**Keywords:** short video; content analysis; regression analysis; new media.

## 1. Introduction

In recent years, the short video industry has developed rapidly in China. The Global Entertainment and Media Industry Outlook 2021-2025: China Abstract predicts that the total revenue of China's entertainment and media industry will be about 358.6 billion dollars in 2021, and will reach about 436.8 billion dollars by 2025. The compound annual growth rate in the next five years will be 5.1%, higher than the global 4.6%. [1] Short video platforms, such as TikTok and Station B, stand out in the media market with their new forms and operation modes [2]. At the same time, the leisure attitude of Chinese people is gradually opening. In relevant empirical studies, most respondents agree with the benefits of leisure, which provides the soil for entertainment and economic activities [3].

At the same time, because offline art activities are also subject to certain restrictions, online art communication has gradually developed. Compared with the traditional "offline" art development model, "online" art communication has the characteristics of timeliness, time-space transcendence, etc. The distance between the public and art is unprecedented, and the public has a new interpretation of artistic lifestyle and aesthetic understanding. The epidemic situation affects the transmission mode of art aesthetics and the content of art production and aesthetic form [4].

With the help of the Internet, which has great communication advantages at present, dance short videos, with their rich forms of expression, make traditional dance art quickly show the characteristics of popularity and diversification, and occupy an important proportion in the short video market. It can be seen that in the post-epidemic era, it is necessary to pay attention to the communication effect and public feedback of short videos as a new form of art communication.

Compared with other types of video content research, the current academic research on the content of dance short videos has a relatively shallow research depth, and quantitative research based on data is relatively few. The research on the content of short dance videos tends to analyze the content of the work itself, and there is little quantitative research on the extent to which these features affect the popularity of the work.

This study hopes to analyze the content elements that affect video popularity and their effects by collecting data. And according to this result, analyze the aesthetic preferences of user groups for

online works, and establish a model with a certain predictive ability based on expected feedback according to the content characteristics of works.

## 2. Research Methods

### 2.1 Research object and content

This research takes the videos of TikTok and BilliBilli Bullet Screen Video Network (later referred to as Station B) in the dance division for nearly a year as the research object, collects and collates their content characteristics and popularity data through content analysis, conducts descriptive analysis on the collected data, and explores the content elements that affect the popularity of this type of video.

### 2.2 Index

In the short video production strategy in the era of mobile Internet, this research takes the official TikTok number of the People's Daily as an example. Li Linwei has 11 analysis projects on coding-related topics, release time, short video duration, content theme, visual elements, auditory elements, likes, comments, forwarding, and audience interaction [5]. Wang Chengwei and Ma Liang analyzed the content of government TikTok short videos in How Government TikTok Short Videos Exploit Influence: Based on the Content Analysis of Government TikTok Short Videos. The categories of the coding table include views, likes, ratings, government TikTok account fields, short video types, short video themes, emotional colors, personas, background music, duration, local characteristics, end theme emphasis, and line types 14 items including subtitles [6].

In combination with the characteristics of dance videos, in order to investigate the correlation between the content characteristics of dance videos and video popularity, the following indicators are mainly observed:

The number of likes, coins, collections, forwarding, and comments of video works is used to investigate the audience's preference for video works; observe the content characteristics of video works from six aspects: music characteristics, dance style, creation type, duration (seconds), background and personnel.

Among them, on the index of popularity, Cong Ting and others used the number of fans and likes of the publisher's TikTok account to feed back the spread of short videos in their empirical research on TikTok short videos, and proved that there is a significant positive correlation between the number of fans and the number of likes of the works [7]. Wu Xia and others found that the number of videos played is the same as the number of likes. The number of comments and forwarding is highly correlated, and it is believed that the cumulative number of videos played can be used to measure the performance of government short video accounts [8]. Xu Xiang found that the number of video likes is a significant factor related to the number of times videos are viewed in the research on Chinese culture We Media videos on the YouTube platform. The number of likes reflects the degree of recognition of the audience for videos to a certain extent, represents the acceptance rate, and reflects the degree of controversy [9]. The heat formula used in Zhang Yan's research is applied in this study.

$$\text{The propagation heat} = (0.1966 \times \text{Like} + 0.3328 \times \text{Comments} + 0.4677 \times \text{Number of shares}) \times 1000 [10]. \quad (1)$$

See Table 1 for specific index divisions.

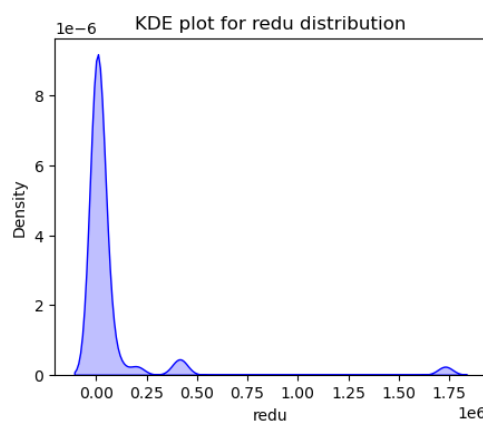
**Table 1.** Index

Index name	Index classification	number	Index name	Index classification	number
degree of heat	Like	R1	Dance Variety	China classic dance	S1
	Coin amount	R2		ACG related dance	S2
	Collection	R3		Hip hop dance	S3
	Sharing volume	R4		Star Dance	S4
	Comments	R5		Pop dance	S5
Musical language	Chinese	L1	duration	Video duration	T
	Other Asian languages (Japanese, Korean, etc.)	L2	Creation Type	Original	O1
	European and American languages	L3		Non original	O0
	Other languages absolute music	L4		Indoor	W0
Music style	Slow, with heavy rhythm	M1	Scene location	Outdoor	W1
	Soft, with medium speed	M2	Professional location	Professional site	P1
	Fast, with soft rhythm	M3		Non-professional site	P0
	Fast, with strong rhythm	M4	Gender ratio		R
			Number of appearances		C

### 3. Data Analysis

#### 3.1 Descriptive analysis of heat data

The quantity distribution curve after standardization of heat index is shown in Figure 1.



**Fig. 1** KDE plot for heat distribution

It can be seen that most (more than 35%) video works have a low popularity, basically within 5000, and a few have a high popularity, reaching 30,000 to 40,000. The overall trend shows few extreme values, while most of the heat is mediocre. It is found from the specific observation that video producers often have a very high number of fans for these and high popularity works. This shows that personal influence on heat is relatively significant.

### 3.2 Correlation analysis of various influencing factors

The analysis results in Figure 2 are obtained after natural logarithmic conversion of comments, likes, shares, coins, collections and popularity indicators. There is a significant positive correlation among likes, comments, shares, coins and collections. The proportion of women, the trend of language outdoor shooting, and the trend of professional shooting are significantly positively correlated with the popularity and likes; Originality, duration and number of participants are negatively correlated with the popularity index.

It can be seen in Fig. 2 that the distribution of users' preferences is more inclined to foreign language music with high rhythm, and the requirements for the originality of works are not strong. In terms of scene selection, viewers prefer outdoor shooting and relatively independent and dedicated dance backgrounds. In addition, female dancers are more popular, and the number of dancers is negatively correlated with video popularity.

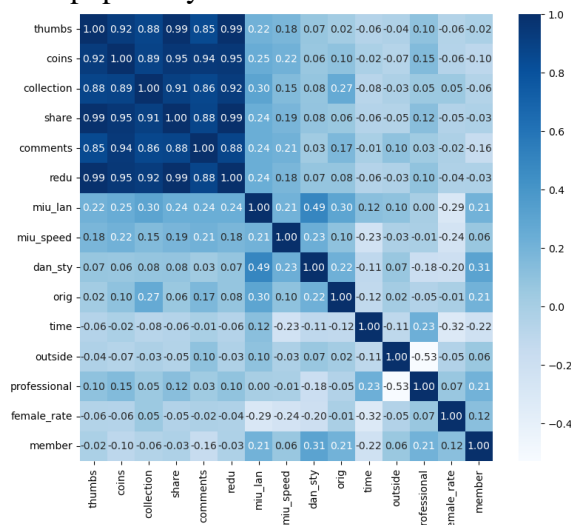


Fig. 2 Correlation heat table

## 4. Discussion

### 4.1 Discussion of results

#### 4.1.1 The Current Market Situation of Bad Money Expelling Good Money

Bad money drives out good means that when a country circulates two currencies with different actual values and constant legal prices, the currency with high actual value (good currency) will inevitably be melted down, collected or exported and exit the circulation field, while the currency with low actual value (bad currency) will instead fill the market. In a narrow sense, bad money drives out good because of information asymmetry. When the valuator of an item has a certain valuation, the supplier of the item will choose to provide items with lower real value, resulting in fewer and fewer items with higher real value [8].

Among the 50 works sampled by the research, the number of original works is very small, and the popularity is generally low, while the popularity of the pop songs in a short time is high. Compared with the dance works, the original works take a long time and have higher technical requirements for dancers. However, the production cycle of this kind of works is longer and the production cost is higher. Moreover, due to the lack of popularity of the music itself, the visibility in the platform is weak. However, the production of clip flipping and dancing works is fast, low in cost, and can rely on the existing popularity of music and choreography as a basis. The content feedback is good. On the whole, works with low cost and low technical requirements are more visible, and the market shows the situation that bad money drives out good money.

#### **4.1.2 User demand for fragmented entertainment**

The short video platform itself meets the needs of users for fragmented entertainment, which explains the phenomenon that works with longer duration and stronger rhythms are more popular. This kind of work deletes the accompaniment and main song that is relatively lacking in highlights, and the short video that directly presents the core features of the dance works meets the needs of users for fragmented entertainment, so users have better feedback.

### **4.2 Deficiency analysis and improvement direction**

#### **4.2.1 Insufficient data**

The total amount of data for research and observation is small, and the sampling date is relatively centralized. Due to the limitation of manpower and time, all the data of the study are from the 24-hour video in the dance area of Station B on November 17, 2022. Considering that there are no major events, festivals and holidays on that day, the data are relatively representative, but there is still the possibility of deviation in the research results caused by time concentration.

#### **4.2.2 Lack of indicator setting and weak operability of some indicators**

Due to the strong subjectivity and the difficulty in coding, this study did not set indicators on the setting, lighting, mirror movement, dance theme and other aspects, which also have an important impact on the visual effect of dance works. In addition, the existing indicator settings pay more attention to the additional content beyond dance, and take the dance video as a whole as the object of observation, while there are few aesthetic indicators for dance itself.

In addition, in the actual data collection process, it is found that the encoding of rhythm and style of short dance video background music is strongly influenced by subjective consciousness. In addition, in practice, it is found that the division of "specialty" is relatively vague for the encoding of the location of the view, which may affect the validity of the data.

#### **4.2.3 Ignore the influence of the author on the visibility of video content**

The study ignored the influence of the number of video authors' existing fans and personal influence on video visibility. In addition, the thermal computer system of the platform is also ignored to some extent.

## **5. Conclusion**

Through content analysis, this study analyzes the factors that affect the popularity of dance works in the B station dance area. The research found that the proportion of women, language, outdoor shooting trend, and the trend of professional shooting were significantly positively related to popularity and popularity; Originality, duration and number of participants are negatively correlated with the popularity index. To sum up, it can be seen that the factors that have a positive effect on the popularity of works are: female dancers, background music in foreign languages, and outdoor, professional shooting sites, which are short and long. The popularity of the popular works is also higher than the original ones. On the whole, the short video duration of Station B is not optimistic. Bad money drives out good money, which is not conducive to creating an environment that encourages originality and high-quality work. Therefore, it is imperative to increase the visibility of high-quality works and original works through platform algorithms. The platform should properly adjust the push mechanism to increase the possibility of users' access to original high-quality works. This research combines reality and makes a superficial descriptive analysis of the current short video work environment. In the aspect of encouraging originality and polishing works, it provided some suggestions on the recommendation and algorithm mechanism of relevant platforms.

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