

Research on the Dissemination power and Influence Factors of University Official Douyin Account

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Abstract: In the new media era, university official Douyin account is a new platform of news publicity and image building of universities. It plays an irreplaceable role in expanding influence, remodeling its image and conveying campus culture. This paper uses content analysis and regression analysis to analyze 480 Douyin short videos of 18 university official accounts with more than 500 thousand fans. The account location of university official Douyin account has a key impact on the dissemination power. The different content themes and the presentation of short video have significant differences in dissemination power. This paper suggests that universities should identify the role orientation of official Douyin account, enrich the content and theme of short videos, optimize the expression of short videos, in order to improve university publicity and reputation.

Keywords: University official Douyin account, dissemination power, Influencing factors.

1. Introduction

According to "The 48th Statistical Report on China's Internet Development" released by CNNIC, the number of short video users reached 888 million by 2021, accounting for 87.8% of the total Internet users [1]. Short video has become one of the main tools for people to obtain information and entertainment. Douyin APP is the largest and the most popular short video platform in China. In the new media era, university official Douyin account is a new platform of news publicity and image building of universities. More and more colleges and universities open up their own official account in Douyin platform. Therefore, taking university official Douyin accounts as data is very representative. The Douyin short video platform plays an irreplaceable role in expanding influence, remodeling its image and conveying campus culture in universities.

There is a relative lack of relevant research on university official Douyin account at home and abroad. The existing research is also limited to how to create popular college short videos [2], the content production of short videos, platform operation and organization innovation [3]. Study of the dissemination power of Douyin is relatively abundant. Y. Feng and other researchers studied the influence factors of 21 Douyin accounts by DEMATEL method, and found 12 key factors [4]. Based on the content analysis, C. W. Wang and L. Ma concluded that video clips can attract and accumulate long-term fans, and the same series or serial video clips have great influence [5]. Through the "5W" method of Douyin communication activities, Q. X. Nie established the evaluation index system of University official accounts [6]. Therefore, this research studies the dissemination power and influencing factors of universities' Douyin short videos, and expands the research on the dissemination power of Douyin short videos. Douyin short video platform is also helpful to reveal the development, dissemination and influencing factors of university official accounts, and provide recommendations for the development of university official accounts.

2. Theories and Assumptions

Because of the special recommendation algorithm for

Douyin platform, views is highly correlated with likes, comments and reposts. According to the principal component analysis, the amount of short video likes can measure the dissemination power of short video accounts [7]. The selection of independent variables combines the characteristics of short videos on Douyin platform and the research basing of previous researches, and selects 9 independent variables.

2.1. Title Sentence Pattern

Through the textual research on headlines issued by WeChat official accounts of university libraries, we found that the pattern of headlines often used questions, exclamations, declarative sentences and imperative sentences. Moreover, the articles with headlines using interrogative sentences and exclamatory sentences are much more effective than those using clauses and imperative sentences [8]. Headline is the first information that readers catch when opening the short video app. The pragmatic expression of the headline can also reflect the emotional characteristics of the short videos. Therefore, this study puts forward the following assumptions:

H1: Different sentence patterns of headlines have different effects on the dissemination power of short videos.

2.2. Subtitle Explanation

The duration of university short videos usually ranges from more than ten seconds to a few minutes. If college short videos are broadcast without subtitles, it is difficult for the public to quickly grasp the main content of the video. On the contrary, if college short videos have clear and organized subtitles, they can effectively attract the attention of viewers [9]. When watching college short videos, viewers can quickly understand the content of the short video, clarify the theme, and then receive the content the video conveys, which affects the dissemination power of college short videos. Therefore, this study puts forward the following assumptions:

H2: Subtitle explanation has a positive correlation effect on the dissemination power of short videos.

2.3. Subject Category

By analyzing the theme of the Douyin short videos, we find that the theme of short videos affects the public participation and the short video dissemination power [10]. By analogy,

different subject categories of college short videos have different attraction to viewers.

H3: Different subject categories have different effects on the dissemination power of short videos.

2.4. Shooting Form

Through the analysis of popular government short videos, it is found that the proportion of real video shoots (real videos refer to videos which recording live news) is the highest, because real video shoots have the highest authenticity and often have visual stimulation, which can attract the attention of the viewers and cause emotional resonance in a short time[3].Therefore, this paper assumes that college short video has a similar effect.

H4: Different shooting forms have different effects on the dissemination power of short videos.

2.5. Emotional Color and Background Music

People tend to talk about their emotional experience with others, and the emotion of short videos will affect the willingness of the viewers to share, like and comment [11]. Therefore, the emotional color of college short videos plays an important role in information dissemination. Compared with the official accounts of micro-blog and WeChat, the contents of college short videos can arouse the viewers' strong emotional experience in a short time. The background music also plays a certain role in arousing the viewers' emotion. Therefore, this paper assumes:

H5: Different emotional colors forms have different effects on the dissemination power of short videos.

H6: Different background Music has different effects on the dissemination power of short videos.

2.6. Language Style

The Douyin platform has different language styles than

traditional media, and is more lively than the traditional micro-blog and WeChat official accounts [12]. For example, the use of spoken and online language can shorten the distance with the public and eliminate the sense of distance brought by the official accounts. Therefore, this paper assumes:

H7: Different style of language have different effects on the dissemination power of short videos.

2.7. Domain Related

When the college short video released by the official account is closely related to the campus, the account can design the short video content creatively from its own perspective, obtain unique video materials, and skillfully show the daily life of the campus to the public. Therefore, the college short videos are also more attractive. This paper assumes:

H8: College short videos related to the campus show a positive correlation effect on the dissemination power of short videos.

2.8. Video Duration

Compared with traditional videos, the time people spending on each video is significantly shorter. The viewers' preference for short videos requires that university official accounts should catch the eyeballs of the viewers in a relatively short time, arouse strong emotional resonance, and provide key information to meet the needs of the viewers. It needs higher requirements for short video screenwriters. Therefore, this paper assumes:

H9: Video duration has different effects on the dissemination power of short videos.

Table 1. Overview of University Official Douyin Account
(Unit: thousand, Data as of April 2022)

Official Douyin Account	Fans	Likes	Comments	Shares	Videos	Likes/the number of fans	Average Likes/the number of fans
Tsinghua University	7083	28890	421	440	7260	46	40
Peking University	5887	32590	852	997	11020	55	30
National University of Defense Technology	4244	63716	1204	982	5580	150	114
Sichuan Southwest Vocational College of Civil Aviation	3587	91541	1852	1189	11730	272	78
People's Public Security University of China	3578	50443	1201	2004	9070	141	56
Zhejiang University	1759	36527	552	386	17840	208	20
Wuhan University	1287	16735	263	372	17280	147	9.7
Shanghai Jiaotong University	1090	12412	234	254	7990	137	16
Fudan University	992	3107	136	113	7870	43	3.9
Beijing Normal University	913	6029	165	220	9760	83	6.2
Renmin University of China	876	9419	148	196	3660	108	26
Huazhong University of science and technology	848	13811	354	475	11320	195	12
Communication University of China	810	7843	139	269	1480	114	53
Chinese Criminal Police Institute	623	6150	110	148	5730	102	11
Xiamen University	563	3536	79	83	5170	63	6.8
Chongqing Hailian Vocational Technical College	558	14213	259	217	7710	277	20

3. Analysis and Results

3.1. Overview of University Official Douyin Account

According to “2021 Douyin Knowledge Content Data Report” ,1259 universities have opened official Douyin accounts [13]. We selected universities with more than 500 thousand fans. 18 universities met the requirements, as shown in Table 1. Among them, there are 12 famous universities in the top 30[14], accounting for 66.7%. Tsinghua University and Peking University, the two most famous universities in China, have the largest number of fans.

We define the likes per number of fans to show the stickiness of fans. It is found that there is a huge difference between colleges and universities. Likes per number of fans of Sichuan Southwest Vocational College of Civil Aviation and Chongqing Hailian Vocational Technical College are

more than 270, which are the highest of the 18 universities. It shows that their fans have high stickiness and high recognition of short videos. On the contrary, Tsinghua University and Fudan University are the lowest. It shows that their fans have low stickiness and low recognition of short videos.

We use average likes per number of fans to measure the average video quality of the official Douyin accounts. The difference is also huge. The highest is the National University of Defense Technology whose average likes per number of fans is more than 100 thousand.

3.2. Descriptive Analysis

We selected 30 short videos with the highest likes from the 18 universities from last year, totaling 480 popular videos, for content analysis and coding. According to the above assumptions, the relevant explanations and statistical results of the 9 variables are shown in Table 2.

Table 2. Descriptive statistical results of variables

Variables	Variable interpretation	Average value	Standard deviation
Sentence Pattern of headline	Declarative sentence is 1, Interrogative sentence is 2, Exclamatory sentence is 3, Imperative sentence is 4	2.02	1.04
Subtitle	The video has subtitles is 1, otherwise it is 0	0.71	0.45
Explanation Subject	Theme publicity is 1, Positive energy propagation is 2, Anecdotes is 3	1.30	0.63
Category	Graphic splicing is 1, Sitcom is 2, Real videos is 3	2.41	0.88
Shooting Form	Excited is 1, Moving is 2, Humor is 3, No emotional color is 4	3.26	1.15
Emotional Color	Popular songs of Douyin is 1, General background music is 2, No background music is 3	1.73	0.72
Background Music	Written language is 1, Oral language is 2, Network language is 3, No obvious style is 4	3.18	1.12
Language Style	University related is 1, otherwise it is 0	0.87	0.34
Domain Related	1-15 seconds is 1, 16-30 seconds is 2, 31-45 seconds is 3, 46-60 seconds is 4, More than 60 seconds is 5	2.01	1.322
Video Duration			

Table 3. Descriptive statistical results of samples (N=480)

Variables	Types	Sample s	Percentage	Variables	Types	Sample s	Percentage
Sentence Pattern of headline	Declarative sentence	222	46.3%	Emotional Color	Excited	81	16.9%
	Interrogative sentence is	60	12.5%		Moving	24	5.0%
	Exclamatory sentence	165	34.4%		Humor	66	13.8%
	Imperative sentence	33	6.9%		No emotional color	309	64.4%
Subtitle	With subtitles	342	71.3%	Language Style	Written language	48	10.0%
	No subtitles	138	28.8%		Oral language	117	24.4%
Explanation Subject	Theme publicity	381	79.4%		Network language	15	3.1%
	Positive energy propagation	54	11.3%		No obvious style	300	62.5%
	Anecdotes	45	9.4%	Domain Related	University related	417	86.9%
Shooting Form	Graphic splicing	126	26.3%		No related	63	13.1%
	Sitcom	30	6.3%	Video Duration	1-15seconds	228	47.5%
	Real shooting	324	67.5%		16-30seconds	144	30.0%
Background Music	Popular songs of Douyin	207	43.1%		31-45seconds	42	8.8%
	General background music	198	41.3%		45-60seconds	6	1.3%
	No background music	75	15.6%		More than 60 seconds	60	12.5%

It can be seen from table 3 that the Sentence Pattern of popular short videos' headline are mainly declarative sentences and exclamatory sentences, accounting for more than 80% in total.71.3% of short videos have subtitles. The video theme is mainly theme publicity, accounting for more than 79.3%. The shooting form is mainly real shooting, accounting for 67.5%.64.4% of the short videos did not reveal obvious emotional color.62.5% of the short videos did not reveal obvious language style. The vast majority of videos are related to the campus, up to 86.9%.47.5% of short videos are within 15 seconds, while 12.5% last more than 1 minute, and the remaining nearly 50% are between 16-60 seconds.

3.3. Regression Analysis

This paper tests the collinearity of independent variables and the fitting degree of the model. The results show that the VIF<5.It shows that there is no multicollinearity relationship between independent variables, and all independent variables can enter the model.

Through the regression analysis, as shown in Table 4, we can find that as far as the sentence pattern of headline is concerned, the influence of "Interrogative sentence" (p=0.037<0.05)on likes is significantly different from that of "Declarative sentence", which shows that the short video using interrogative sentence can better catch people's attention. In terms of subtitles, there is no significant difference between "With subtitles" (p=0.211>0.05) and "No subtitles". In terms of theme category, the influence of

"Anecdotes" (p=0.018<0.05) on likes is significantly different from that of "Theme publicity". It shows that short videos of anecdotes are easier to get more likes and attract public recognition. In terms of shooting form, there is no significant difference between the influence of "Sitcom" (p=0.669>0.05) and "Real shooting" (p=0.617>0.05) on likes and the influence of "Graphic splicing" on likes. As for background music, there is no significant difference between the influence of "General background music" (p=0.537>0.05) and "No background music" (p=0.917>0.05) on "Popular songs of Douyin". In terms of emotional color, there is no significant difference between "Moving" (p=0.994>0.05) and "Humor" (p=0.416>0.05) and "Excited". However, the effect of "No emotional color" (p=0.035< 0.05) on likes is significantly different from that of "Excited". These "No emotional color" short videos, mostly real shooting short clips, giving people more realistic feeling. As far as discourse style is concerned, "Oral language" (p=0.728> 0.05) and "No obvious style" (p=0.507>0.05) have no significant difference on likes compared with "written language", but "network language" (p= 0.001<0.05) has a significant difference on likes compared with "written language". In terms of whether the short video content is related to campus life, there is no significant difference between "University related" (p=0.084>0.05) and "No related" on likes. In terms of video duration, there is no significant difference between the impact of videos with a duration of more than 15 seconds on likes and the impact of "1-15 seconds" on likes.

Table 4. Results of independent variable regression analysis

Variables	Types	β	sig	Variables	Types	β	sig
Sentence Pattern of headline	Compare with declarative sentence			Emotional Color	Compare with excited		
	Interrogative sentence is	0.149	3.7%		Moving	0.001	99.4%
	Exclamatory sentence	0.011	90.1%		Humor	0.081	41.6%
	Imperative sentence	0.022	78.8%		No emotional color	0.145	3.5%
Subtitle Explanation	With subtitles or No subtitles	-0.099	21.1%	Language Style	Compare with written language		
Subject Category	Compare with theme publicity				Oral language	0.043	72.8%
	Positive energy propagation	-0.042	60.2%		Network language	0.299	0.1%
	Anecdotes	-0.214	1.8%		No obvious style	0.084	50.7%
Shooting Form	Compare with graphic splicing			Domain Related	University related or No related	-0.137	8.4%
	Sitcom	0.037	66.9%	Video Duration	Compare with 1-15seconds		
Real Shooting	0.043	61.7%	16-30seconds		-0.154	6.9%	
Background Music	Compare with popular songs of Douyin				31-45seconds	-0.142	8.5%
	General background music	0.053	53.7%		45-60seconds	0.02	80.1%
	No background music	-0.009	91.7%	More than 60 seconds	-0.064	43.9%	

4. Conclusions and Recommendations

4.1. Research Conclusion

We use content analysis and regression analysis to explore the effect of 9 influencing factors on the dissemination power of short videos.

4.1.1. The Unknown Universities Post Short Videos Related to the University's Characteristics can Still Get the Dissemination Power and Improve Reputation

Except the 12 famous universities of the 18 samples, the remaining four universities is featured by its distinctive characteristics. The content released by the University of Defense Science and Technology is military related and unique. People's Public Security University of China and Chinese Criminal Police Institute Douyin accounts are related to police field. Communication University of China has the professional characteristics of broadcasting and hosting related. Sichuan Southwest Vocational College of Civil Aviation is characterized by training flight attendants, and most of the short video contents released are related to the daily work of flight attendants. Chongqing Hailian Vocational Technical College is characterized by training high-speed railway attendants, and most of the short video contents released are related to the daily work of flight attendants.

4.1.2. The Content of University Official Douyin Account is Limited

From the theme of the popular videos of the official accounts, 79.4% of the short videos are related to college publicity, which will inevitably lead to aesthetic fatigue. In contrast, anecdotal short videos are more likely to get more likes and attract public attention. Through regression analysis, we also found that whether the video content is related to the campus life has no significant impact on the dissemination power. Therefore, the video content does not need to be limited to the campus life.

4.1.3. Short Videos Has Stronger Dissemination Power Combined with Network Hot Spot

Through regression analysis, it can be seen that short videos combined with network hot spot can get more likes and have stronger dissemination power. This is because most of these short videos use popular online language at that time and are liked by young groups.

4.2. Policy Suggestion

4.2.1. Identify the Role Orientation of Official Douyin Account

First, the university official Douyin account should not only clarify the positioning of the official media, but also strengthen the attributes of we media, especially the social attributes, rather than just one of the official publicity channels. Secondly, to different from other official university accounts, the account operator must combine the characteristics of the college to create unique features, such as creating an online figures, introducing a special major, showing an interesting activity.

4.2.2. Enrich the Content and Theme of Short Videos

Topic selection determines content and content determines fans. The university official Douyin accounts not only help colleges and universities to enlarge their influence, but also provide information and satisfy entertainment needs of

teachers and students. Therefore, the university official Douyin accounts need to focus on the demand of their fans especially teachers and students, and post popular short videos. It is better that the short videos convey campus culture and spiritual connotation.

4.2.3. Optimize the Expression of Short Videos

The topic of short videos should adopt interrogative sentence pattern and short videos should better use network language, which has a significant positive impact on the communication effect. Therefore, Douyin operators should focus on the latest production technology of short videos, and constantly enrich the expression forms of short videos, so as to enhance the dissemination power of the university official Douyin accounts.

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References

- [1] The 48th Statistical Report on China's Internet Development.http://www.cnnic.cn/gywm/xwzx/rdxw/20172017_7084/202109/t20210923_71551.htm.
- [2] X.Chen,Y.H.Zheng,Y.L.Song:How does the University Official Douyin Account Continues to Create Popular Works,Public Communication of Science & Technology,vol.12 (2020)No.9, 108-110.
- [3] L.Li,T.Yang:Empowerment and Model Innovation of Short Video on News Publicity in Colleges and Universities,Media Education,vol.3 (2021)No.1, 85-87.
- [4] Y.Feng,T.Wang,G.Q.Ma:Research on the Key Factors of the Information Dissemination Effect of Universities New Media based on DEMATEL,Journal of Jiangsu University(Social Science Edition),vol.23 (2021)No.2,113-124.
- [5] C.W.Wang,L.Ma:How does Government Short Video Break Out:Content Analysis based on Government Official Douyin Account,E-Government,(2019)No.7,31-40.
- [6] Q.X.Nie:Research on the Dissemination Power of University Official Douyin Account-Case Study of 31 "985 Project" University Official Douyin Account Colleges,Application Research,vol.6 (2020)No.3,45-47.
- [7] X.Wu,L.Ma:the Dissemination power and Influence Factors of Government Official Douyin Account:An Empirical Study based on Government Official Douyin Account,E-Government,(2019)No.7,22-30.
- [8] W.L.Jia:Empirical Study on Wechat Communication Effect of "Double first-class" University Libraries in the Yangtze River Delta-Text Analysis based on Headline Information Title,Library Work and Study,(2019)No.2,121-128.
- [9] X.Wang,Z.J.Wang,A.Z.Hou:Eye Movement Experiment Research on Video Caption Design in Network Teaching,Modern Educational Technology,vol.26 (2016)No.2,45-51.
- [10] Q.Chen,X.X.Gao,et al:Research on the Influencing Factors of Government Short Video Public Participation-Take the Official Douyin Account of the "Communist Youth League Central Committee" as an Example,(2019)No.10,14-23.
- [11] Bell C, Sternberg E: Emotional Selection in Memes: The Case of Urban Legends,Journal of Personality & Social Psychology,vol.81 (2001)No.6,1028-1041.

- [12] J.H.Wang,X.C.Zhang:Analysis of Douyin's Discourse and Social Effects,News Forum,(2018)No.5,19-23.
- [13] 2021 Douyin Knowledge Content Data report.https://lmtw.com/mzw/content/detail/id/206385/keyword_id/-1.
- [14] 2022 Ranking of Chinese Universities.<https://www.shanghairanking.cn/rankings/bcur/202211>.