

# Dissemination Analysis of Official University TikTok Accounts in Shaanxi

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## Abstract

Due to the rapid development of the TikTok platform, an increasing number of colleges and universities have begun to use it as a publicity medium. Colleges and universities in Shaanxi Province, China, have achieved certain results in the use of TikTok, but there is still room for overall improvement. Therefore, it is particularly important to study its communication effects and content characteristics. This article aimed to 1) analyze the communication effect of official TikTok accounts of universities in Shaanxi and 2) study the characteristics of communication content of official TikTok accounts of universities in Shaanxi. The sample was the top ten official TikTok accounts in Shaanxi Province universities ranked by the effectiveness of their 289 short videos. They were selected by conducting equidistant sampling on all videos of the top ten official TikTok accounts of higher education institutions in Shaanxi Province over a period of 17 months after encoding them. The instrument for collecting data was Python. Analysis of data by descriptive statistics and content analysis. The research results were found as follows:

1. Dissemination Effects: Users interact frequently, with high video views, some exceeding millions of times. Most university followers are growing rapidly, demonstrating the influence of universities on the TikTok platform.

2. Content Characteristics: The official TikTok accounts of Shaanxi universities feature diverse video themes, encompassing campus culture, educational resources, etc. The content forms are rich, including real-life shooting, animation production, etc. They attract user attention through hot topics, challenge contests, and other means.

3. Issues and Countermeasures: Problems include unprofessional content production, an incomplete operational system, and unstable update frequency. Countermeasures include improving content quality, clarifying account positioning, optimizing promotion strategies, establishing professional teams, and strengthening user interaction.

The research conclusion indicates that the dissemination effect of the official TikTok accounts of universities in Shaanxi Province is characterized by significant user interaction and extensive dissemination influence. The content disseminated is characterized by diversity, innovation, and strong appeal.

**Keywords:** Official TikTok; Shaanxi universities; Dissemination analysis; Dissemination effect; Content characteristics

## Introduction

With the rapid development of internet technology, mobile communication, 5G, big data, and other new technologies, short videos have become one of the mainstream media for communication. The TikTok platform, with its unique interactivity, large user base, and high engagement, has become an important channel for cultural dissemination in universities. By releasing videos on TikTok, universities can not only showcase their campus culture and educational resources but also enhance interaction with students and increase their social influence. However, since the application of TikTok in universities is still in its early stages of development, there has been relatively little research on the communication effects of university TikTok accounts. Therefore, studying the communication effects of official TikTok accounts of universities in Shaanxi Province is of significant importance. Based on this, this article will analyze starting from the current development status of the official TikTok accounts of universities in Shaanxi, combining the relevant statistical data on their existing communication effects.

There are two specific research questions: First, how is the dissemination effect of the top ten official TikTok accounts of universities in Shaanxi? Second, what are the characteristics of the dissemination content of the official TikTok accounts of universities in Shaanxi?.

Through the study and analysis of the above two issues, the aim is to reveal some of the problems faced by official TikTok accounts of universities in Shaanxi Province during their operation process and to propose corresponding optimization suggestions. This research can better understand the current performance of Shaanxi universities on the TikTok platform, identify key factors affecting their communication effects and audience interaction. On this basis, it will also

explore how to improve content creation, enhance user engagement, optimize publishing strategies, and other means to enhance the appeal and influence of official TikTok accounts of Shaanxi universities. Ultimately, this study hopes to provide practical strategies and methods with guiding significance for the TikTok account operations of universities within Shaanxi Province, helping these universities to build brands and disseminate information more effectively in the new media era.

The theoretical significance of this study lies in the in-depth exploration and analysis of the key factors affecting the communication effects of official TikTok accounts of universities through research on the communication effects of official TikTok accounts in Shaanxi. This will not only help understand the current communication mechanisms of official TikTok accounts in the new media environment but also provide theoretical support for increasing the exposure of works and user interaction. Through this research, we can better understand how to effectively disseminate educational content through the TikTok platform and how to use this platform to strengthen communication and interaction with the younger generation, thus providing new perspectives and methods for the publicity work of universities.

The practical significance of this study aims to provide a set of feasible TikTok operation strategies for universities, helping them enhance their educational strength and the quality of talent cultivation in the new media era. By optimizing the operation of TikTok accounts, universities can more effectively showcase their educational achievements and academic research, attract more attention and recognition, and thereby improve their social reputation. In addition, by enhancing interaction with users, universities can better understand societal needs and public expectations, promote interaction and cooperation between universities and society, and cultivate more outstanding talents who meet the demands of the times (Deng, 2021).

## **Research Objectives**

1. Analyze the dissemination effect of official TikTok accounts of universities in Shaanxi.
2. Study the characteristics of the dissemination content of official TikTok accounts of universities in Shaanxi.

## Literature Review

Regarding the research on the dissemination of official TikTok short videos by higher education institutions, based on existing domestic and international research findings, the current state of research is outlined as follows:

1. Current state of domestic research: Domestic scholars have conducted preliminary studies on the dissemination effects of official TikTok accounts of higher education institutions, focusing mainly on content analysis, user interaction, and communication strategies (Liu, 2019). Studies have shown that official TikTok accounts of higher education institutions have significant effects in spreading campus culture, showcasing educational resources, and enhancing interaction with students (Fei & Li, 2024). For example, in the article "Content Features and Dissemination Effects of Official TikTok Accounts of Higher Education Institutions", Wang (2020) analyzed in detail the content characteristics, audience features, and operational strategies of official TikTok accounts of higher education institutions, pointing out that content innovation, precise positioning, and interactivity are key to enhancing dissemination effects. Additionally, the article "Research on Influencing Factors of Dissemination Effects of Official TikTok Accounts of Higher Education Institutions", Chen (2022) constructed an influence assessment model to quantitatively analyze the influence of official TikTok accounts of higher education institutions and proposed targeted paths for improvement. Furthermore, the study "Research on User Portraits and Dissemination Effects of Official TikTok Accounts of Higher Education Institutions", Chen and Zhang (2021) deeply explored user needs, behavioral characteristics, and optimization strategies of official TikTok accounts of higher education institutions from the perspective of user behavior, providing useful references for the operation of official TikTok accounts of higher education institutions. These studies not only enriched the theoretical system of the dissemination effects of official TikTok accounts of higher education institutions in China but also provided scientific guidance for the practical operation of these accounts (Wang, 2020).

2. Current state of international research: Internationally, similar research mainly focuses on the impact of social media on higher education institutions, including brand building, recruitment publicity, and student interaction (Phuangok & Panleow, 2024). These studies provide valuable references for domestic higher education institutions. For instance, in the study "Social Media in Higher Education: Branding, Recruitment, and Student Engagement," American scholar Smith detailed the application of social media in higher education, emphasizing its important role in brand building and recruitment publicity. British scholar Johnson, in the article "The Impact of Social

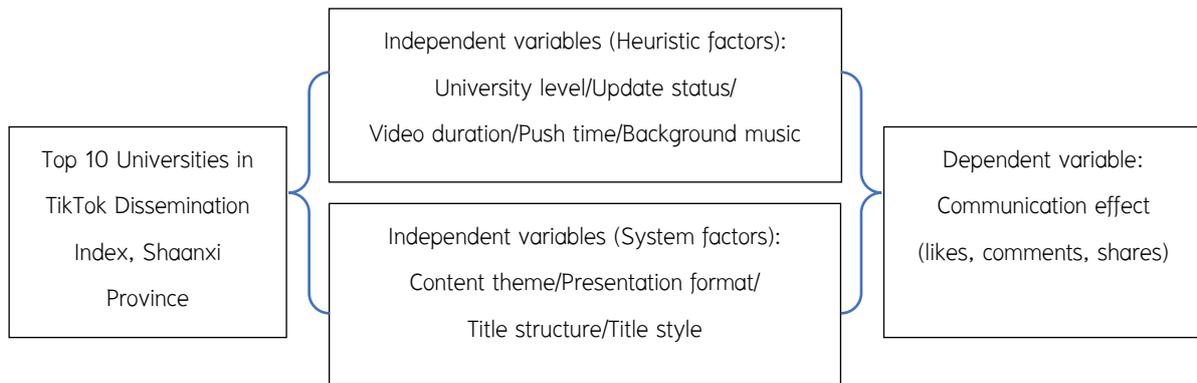
Media on Student–University Interaction," analyzed how social media affects the interaction between students and universities and proposed specific strategies for enhancing interaction effects. Moreover, an Australian research team, in "Enhancing University Branding through Social Media," revealed through empirical research the significant effects of social media in enhancing the brand influence of higher education institutions. These international research findings not only provide valuable experience for domestic higher education institutions but also offer theoretical support and practical references for further deepening related research (Zhang et al., 2014).

The literature review of the above domestic and international studies indicates that although scholars both domestically and internationally have conducted extensive research on the dissemination of official TikTok short videos by colleges and universities, there are still the following deficiencies. Firstly, domestic research mainly focuses on the analysis of dissemination effects, with relatively less in–depth research on the provincial regions of dissemination, categories of dissemination scenarios, and characteristics of dissemination content. For example, research on the content flow characteristics and audience reception psychology of official TikTok short videos of higher education institutions during the dissemination process, especially in the context of each province, is still insufficient. Secondly, although international research provides rich experience and references, localized research specifically tailored to the situation of Chinese higher education institutions is still lacking (Samuseneeto & Saowakon, 2024). Therefore, how to combine international research findings with the actual situation of Chinese higher education institutions to propose more targeted strategies and suggestions is an important direction for current research (Kamkankaw et al., 2024). Based on this, this study builds upon the existing research to investigate the dissemination effects and content characteristics of official TikTok accounts of higher education institutions in Shaanxi Province, with the aim of discovering problems in dissemination through research and further proposing optimization suggestions to promote better application of TikTok in the field of higher education.

## **Conceptual Framework**

This is a study primarily quantitative with qualitative aspects as a supplement. Combining the Heuristic System Model (HSM), the conceptual framework of this research is outlined. The specific research subjects are the top 10 university official accounts in TikTok's dissemination index. The heuristic factors in the independent variables are university level, update frequency, video duration, push time, and background music usage; the system factors in the independent variables

are content theme, presentation form, title sentence structure, and title style. The dependent variable is the specific change in dissemination effect (specifically including likes, comments, and shares). Data statistical analysis is conducted around two research objectives under this conceptual framework. The specific conceptual framework is as follows:



**Figure 1** Conceptual Framework.

## Research Methodology

In the research methodology, the focus is primarily on four aspects: data sources, research tools, data collection process, and data analysis.

In terms of data sources, to ensure the comprehensiveness and representativeness of the study, we comprehensively considered factors such as the type, level, and geographical distribution of universities. We ultimately determined the research sample, namely the top 10 official TikTok accounts in terms of dissemination effectiveness in Shaanxi Province, as the research subjects. At the same time, we used Python software to collect all published content of 1030 short videos from these official TikTok accounts between January 1, 2023, and May 31, 2024, as well as related user interaction data, such as comments, likes, shares, etc., as the foundational data for the study.

This study selected the top ten TikTok accounts of universities in Shaanxi, China, as research subjects, considering two main aspects. First, universities with higher DCI indices have better communication effects, with the top-ranked TikTok accounts posting frequently and with rich content, which is conducive to data collection and can effectively enrich the results of this study, enhancing the reliability of the research conclusions. Second, the selected universities have a high frequency and quantity of posts, along with diverse content, including advanced figures,

campus scenery, campus life, and more. The push frequency and textual content can meet the needs of the study, and the research subjects are typically representative.

The specific sample size and sampling method of this study are as follows: First, randomly number the total sample of 1030 short videos, then use systematic sampling to extract 289 video contents from the top 10 university official TikTok accounts with the best communication effects in Shaanxi Province, China, as the final research sample for data analysis. The reason for selecting 289 short videos as the research sample is based on the following considerations:

Given that the total number of videos is 1030, the Taro–Yamane formula is used for calculation:

$$n = N / (1 + Ne^2)$$

In the formula:  $n$  is the required sample size,  $N = 1030$ ,  $e$  is set to 0.05.  $n = 288.36$ .

After rounding up, the sample size  $n$  should be 289.

In terms of research tools, this study utilized the algorithm formula of the TikTok Communication Index, which is, by using the DCI, evaluated and analyzed the communication effects of TikTok accounts. The DCI algorithm formula is as follows:

$$DCI = [0.10 * \ln(X1+1) + 0.76 * [0.17 * \ln(X2+1) + 0.37 * \ln(X3+1) + 0.46 * \ln(X4+1)] + 0.14 * [0.11 * \ln(X5+1) + 0.89 * \ln(X6+1)] * 100$$

(Source: <https://www.gsdata.cn/site/usage-16>)

Furthermore, to quantitatively analyze the content characteristics of TikTok accounts, content analysis was adopted as the primary research method, and Python software was utilized to collect data from 289 sample videos, which were then organized, classified, and statistically analyzed.

In terms of data collection process, the data collection of this study is mainly divided into two stages. The first stage is the data scraping stage, where Python is used as the data scraping tool to scrape all published content and user interaction data from TikTok platform for 10 sample institutions of study from January 1, 2023, to May 31, 2024. The second stage is the data sorting stage, which involves cleaning, deduplication, and formatting the scraped data to ensure data accuracy and usability.

In terms of data analysis, this study's data analysis is primarily divided into two parts. One part is the analysis of communication effects, which mainly combines user interaction data and the results of DCI data statistical analysis to evaluate and analyze the communication effects of TikTok

accounts. The other part is the analysis of content characteristics, which mainly utilizes Python software to conduct quantitative statistical analysis on the content published by TikTok accounts that have been collected, including statistics and analysis of the content's themes, forms, styles, and other aspects. Finally, based on this foundation, the corresponding research conclusions and recommendations are drawn.

In summary, this study has made comprehensive considerations and plans regarding data sources, research tools, data collection processes, and data analysis to ensure the accuracy and reliability of the research.

## Research Results

For research objective 1: Conduct research using DCI (TikTok Communication Index) and derive research findings. The calculation of DCI is based on the algorithm formula developed by Professor Shen Yang's team from Tsinghua University in China, which comprehensively considers multiple dimensions such as the originality of content, interactivity, and dissemination power, aiming to comprehensively evaluate the extent and effectiveness of TikTok dissemination (Zhao, 2019).

The DCI algorithm formula is as follows:

$$DCI=[0.10*\ln(X1+1)+0.76*[0.17*\ln(X2+1)+0.37*\ln(X3+1)+0.46*\ln(X4+1)]+0.14*[0.11*\ln(X5+1)+0.89*\ln(X6+1)]*100$$

(Source: <https://www.gsdata.cn/site/usage-16>)

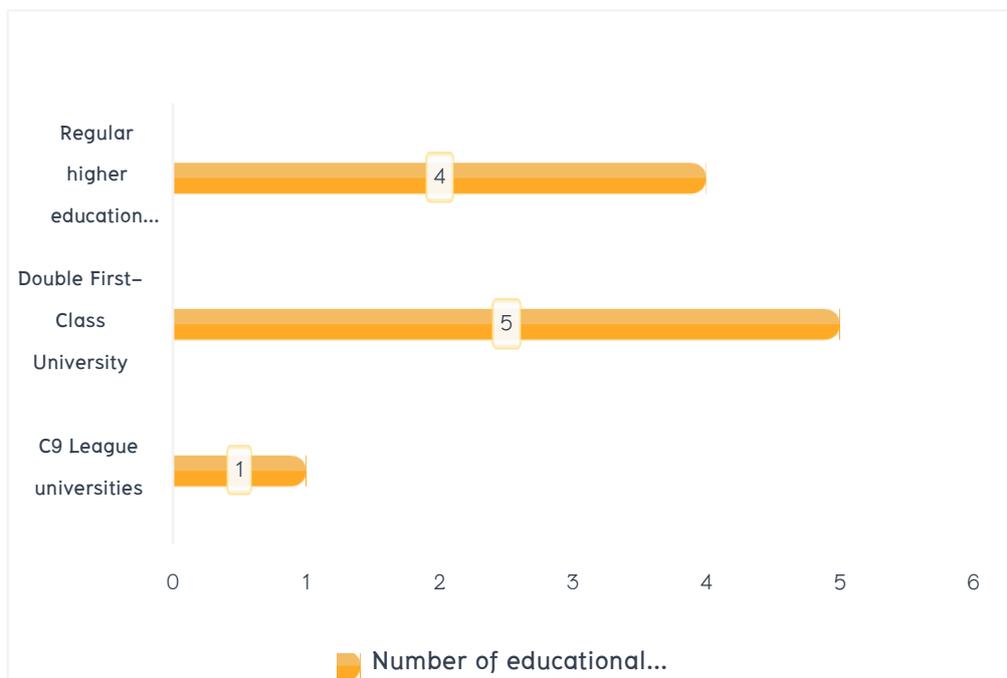
The top ten universities in Shaanxi Province with their DCI values based on the spread index of their official TikTok accounts are as follows:

**Table 1** Top ten universities in Shaanxi Province with their DCI

University Name	DCI	DCI Ranking
Northwestern Polytechnical University	951.86	1
Xi'an Jiaotong University	926.15	2
Northwestern University	869.61	3
Xi'an University of Science and Technology	851.05	4
Xidian University	847.63	5
Xi'an Eurasia University	845.80	6
Northwest A&F University	840.14	7
Xi'an International Studies University	823.86	8
Shaanxi Normal University	823.43	9
Xi'an Kedagaoxin University	807.48	10

(Data statistics start date: January 1, 2023 – end date: May 31, 2024)

For research objective 2 : Conduct statistical analysis on the basic data of the top ten university official TikTok accounts, specifically including the university level of the accounts, update status, video duration, push times, background music usage, content themes, presentation forms, title sentence structures, and title styles, to form a comprehensive analysis and research result of the content of these accounts (Zhang, 2021). The specific results are as follows:



**Figure 2** Analysis of University Levels

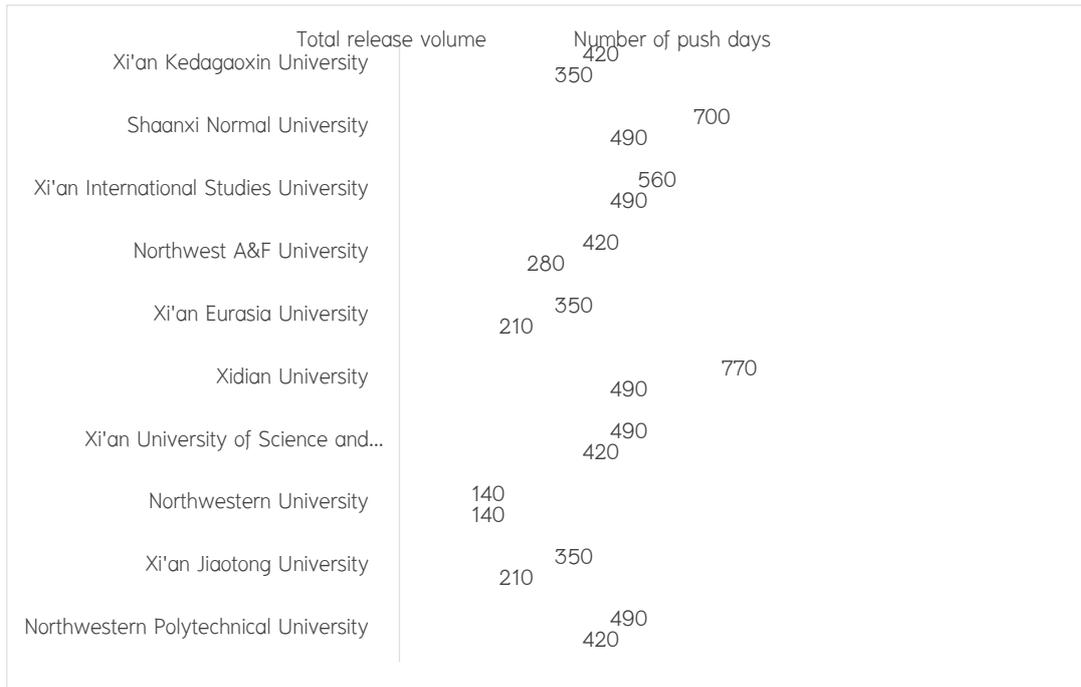


Figure 3 TikTok account update status

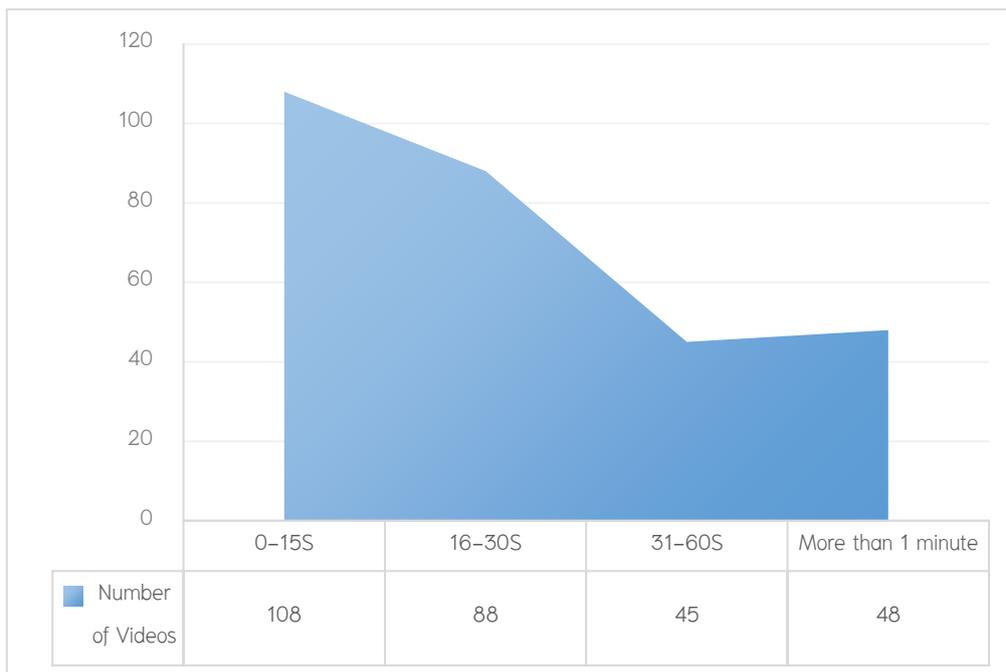


Figure 4 Video Duration

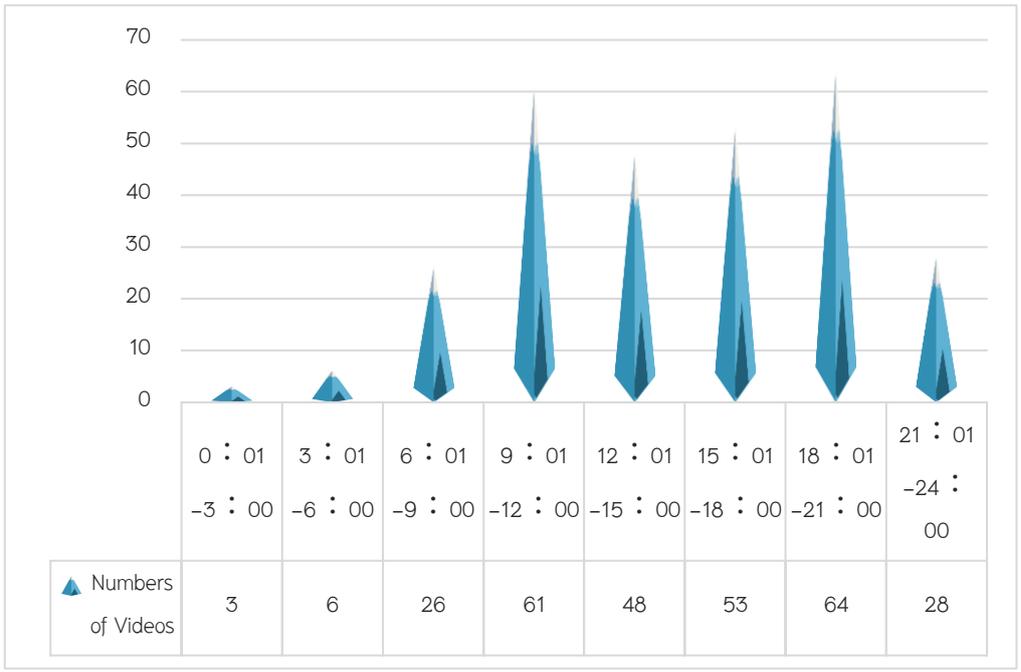


Figure 5 Push Time

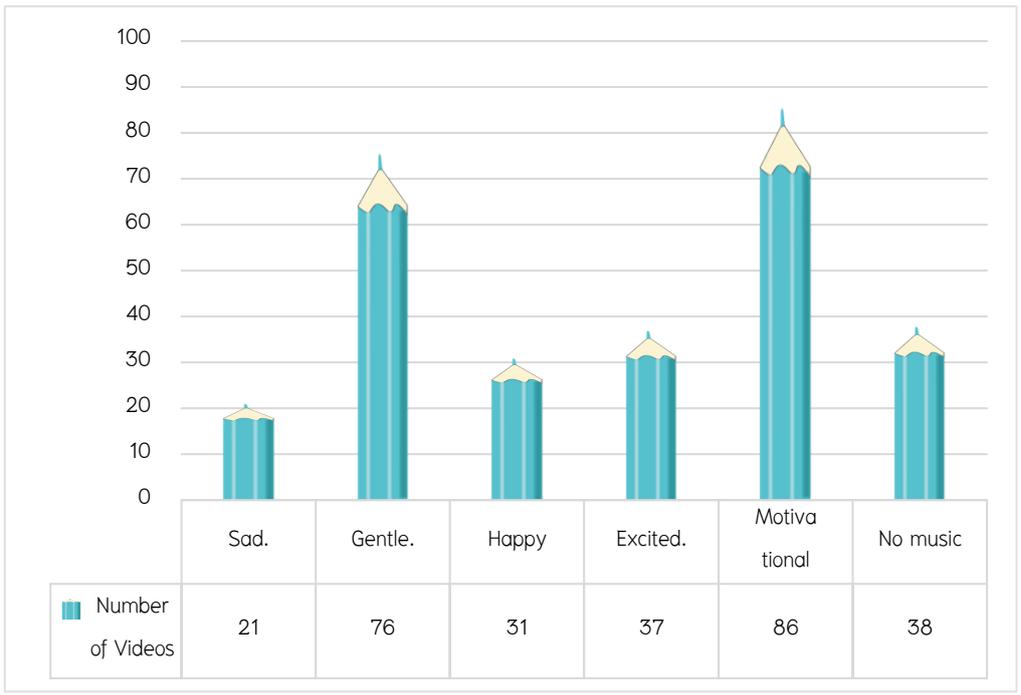


Figure 6 Background Music Usage

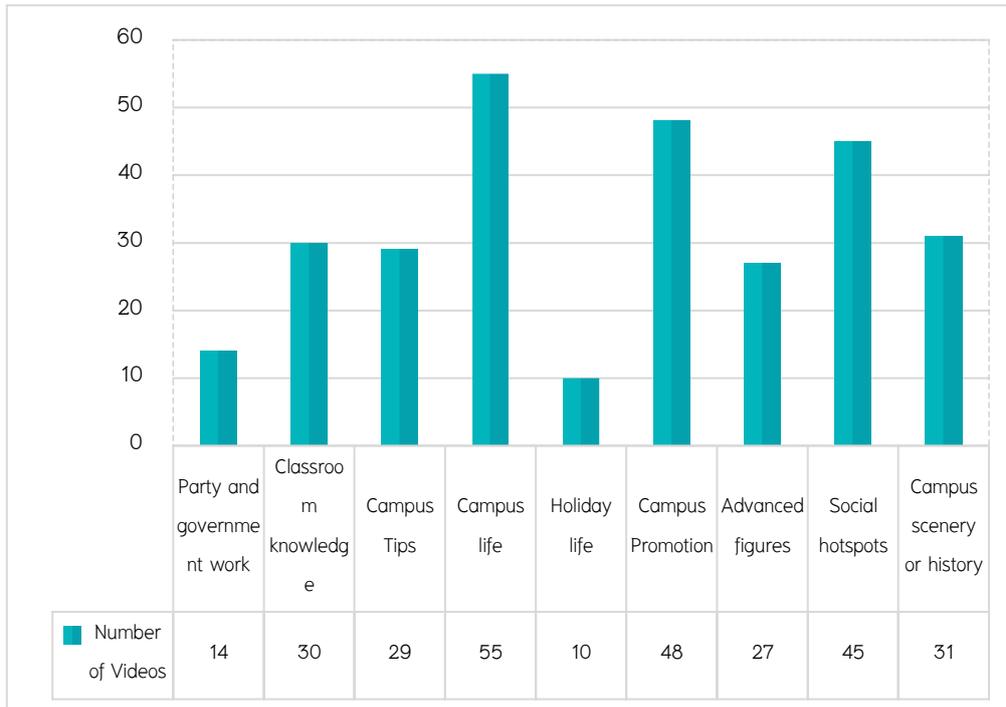


Figure 7 Content Theme

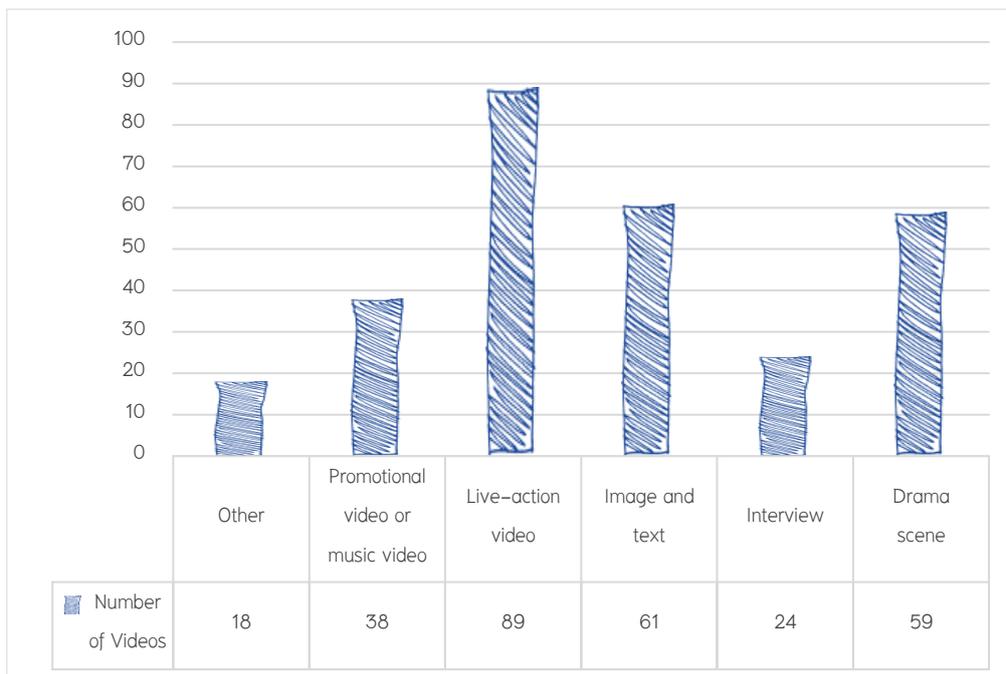


Figure 8 Presentation form

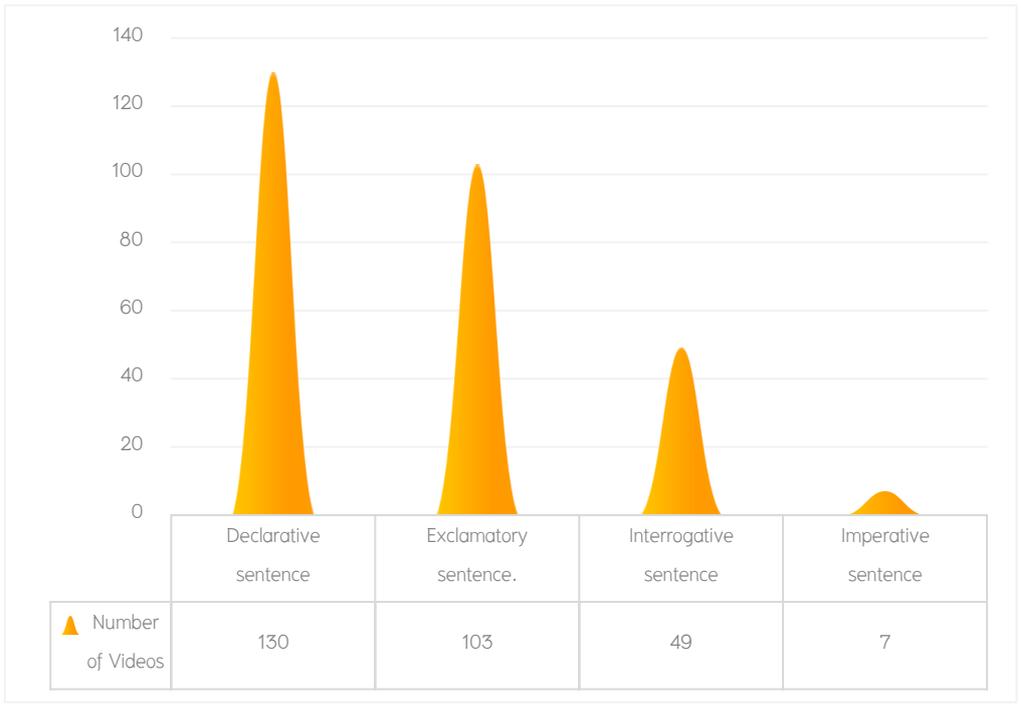


Figure 9 Title sentence pattern

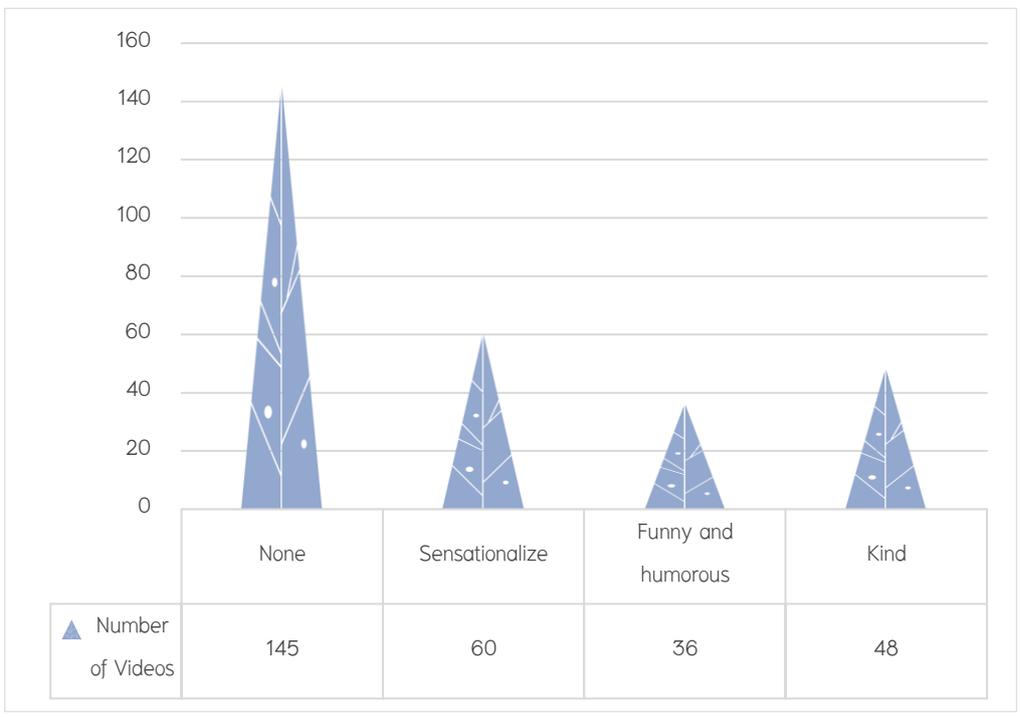


Figure 10 Title Style

Based on the analysis of the research data, the following results are drawn concerning the two research objectives of this article:

For Research Objective 1 , which is the study of the dissemination effect of Shaanxi university TikTok accounts, the results indicate:

In terms of user interaction: Shaanxi university official TikTok accounts have high user interaction, with frequent interactive behaviors such as comments, likes, and shares. In terms of video views: video views are high, with some videos reaching over a million views, demonstrating users' strong interest in university content. In terms of fan growth: most university fan bases are growing rapidly, with some TikTok accounts exceeding a million followers, indicating the significant influence of universities on the TikTok platform.

For Research Objective 2 , which is the study of the content characteristics of Shaanxi university TikTok accounts, the results indicate:

In terms of video themes: Shaanxi university official TikTok accounts have diverse video themes, mainly including campus culture, educational resources, student life, campus activities, and service-oriented content. In terms of content forms: video content forms are rich, including real-life shooting, live action, animation production, and creative expressions. In terms of creative expression: universities use the TikTok platform for creative expression, such as utilizing trending topics, challenges, and live streaming to attract user attention and participation.

## Discussions

Based on the statistical analysis of the data, this study believes that:

In terms of communication effects and user preferences: university accounts should pay attention to users' preferences for video content, such as video length, title style, and genre, to meet user needs (Li, 2022).

At the same time, universities also need to focus on the timeliness and topicality of video content, keeping up with the trends of the times, and releasing content related to current hot topics in a timely manner to attract more user attention and discussion. By analyzing users' likes, comments, and shares, universities can gain a deeper understanding of users' preferences and needs, and then optimize content creation and communication strategies. In addition, universities can use the data analysis tools of the TikTok platform to monitor and analyze the communication effects of videos in real-time, so as to adjust strategies in a timely manner and improve

communication effects. Through these efforts, official TikTok accounts of universities in Shaanxi can better establish connections with users and enhance user satisfaction and loyalty.

In terms of content characteristics and communication strategies: official TikTok accounts of universities should focus on the originality, diversity, and quality of content, reasonably arrange update frequency and content length, to enhance communication effects and influence (Xu, 2023). At the same time, universities should fully utilize the characteristics of the TikTok platform, combine the characteristics of the school, and create content with distinctiveness and appeal to enhance user stickiness and engagement. In addition, strengthening interaction with users, responding to user comments and questions in a timely manner, is also an important means to improve communication effects. By implementing these strategies, official TikTok accounts of universities in Shaanxi can not only better showcase the image of the school but also effectively enhance the school's reputation and influence.

### **Knowledge from Research**

Through the above research, it can be found that the top ten transmission effects of the official TikTok account of Shaanxi Province are shown in Table 1. At the same time, the study found that factors such as university level, update status, video duration, push time, background music use, content theme, presentation form, title sentence pattern, and title style all have a certain impact on the transmission effect of TikTok accounts, as shown in Figure 1.

### **Conclusion**

This study, from a micro perspective, conducts a comprehensive and in-depth analysis of the dissemination effects and content characteristics of official TikTok accounts of universities in Shaanxi, which has guiding significance for the operation of university TikTok accounts. Specific in Figure 11.

Firstly, regarding the dissemination effects, universities in Shaanxi have demonstrated significant user interaction and extensive influence on the TikTok platform. The high level of user engagement, such as frequent commenting, liking, and sharing behaviors, as well as the high playback volumes of some videos, highlights the effectiveness of TikTok as a communication channel and the users' strong interest in university content. This finding not only verifies the potential of TikTok in university communication but also provides strong support for enhancing university visibility and image (Zhao, 2020).

Secondly, in terms of content characteristics, official TikTok accounts of universities in Shaanxi present significant features of diversity, innovation, and appeal. The video themes are broad, covering various dimensions such as campus culture, educational resources, and student life, meeting the needs of different user groups. At the same time, the diverse content forms and creative expressions further enhance the attractiveness of the content and user stickiness. These characteristics collectively constitute the unique communication style of universities in Shaanxi on the TikTok platform, which helps to shape and enhance the school's brand image (Zhang & Skoric, 2020).

In summary, this study not only reveals the communication patterns and user preferences of universities in Shaanxi on the TikTok platform but also provides a scientific basis for universities to formulate effective communication strategies.

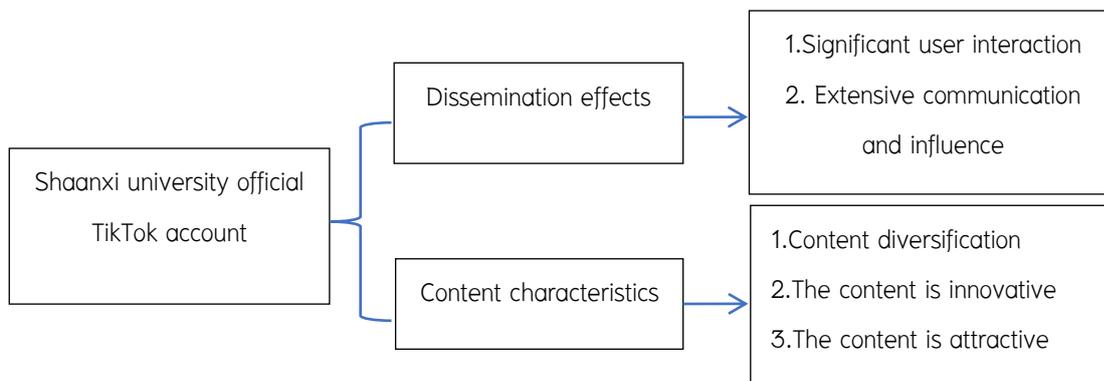


Figure 11 Mind mapping of the overall finding

## Suggestions

This article analyzes the content characteristics, dissemination effects, problems, and countermeasures of official TikTok accounts of universities in Shaanxi through content analysis. The research results show that the video guidance and precise push of university TikTok accounts contribute to enhancing the social influence of universities. However, the dissemination of universities on the TikTok platform still faces some challenges, such as insufficient professional content production, incomplete operational systems, and unstable update frequencies (Zhang et al., 2021).

In response to these issues, this article proposes the following suggestions for improvement: First, continuously enhance the quality of content creation; second, clarify the specific positioning of the operational accounts; third, constantly optimize promotion strategies;

fourth, establish a stable and professional operational team; fifth, strengthen user interaction and continuously improve user experience (Deng, 2022). Only in this way will the dissemination effects of official TikTok accounts of universities in Shaanxi Province continue to improve.

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