

How Do Information Quality, Service Quality, and System Quality Affect the Communication Effect of Government Short Videos on Culture and Tourism: A Fuzzy-Set Qualitative Comparative Analysis Based on 161 Cases

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Abstract

[Research Objective] This study investigates the influencing factors and combinational paths of communication effectiveness for cultural tourism government short videos, providing a theoretical basis for enhancing government information dissemination capacity, shaping local image, and optimizing public services.

[Research Method] Drawing upon the three dimensions of the Information Systems Success Model, this paper selects 161 cultural tourism short video works from eight provincial-level cultural tourism accounts with over one million followers as samples. It constructs a framework linking eight conditional variables—including theme type, language type, video style, posting time slot, comment response, technical packaging, average monthly posting volume, and topic hashtags (#)—to the communication effectiveness of cultural tourism government short videos. By employing fuzzy-set qualitative comparative analysis (fsQCA), six configurational paths for achieving superior communication effectiveness are identified, revealing the conditional configurational relationships between relevant influencing factors and communication effectiveness.

[Research Conclusion] The study finds that technical packaging constitutes a necessary condition for achieving favorable communication effectiveness. The six configurational paths are categorized into three types: information quality-oriented, service quality-oriented, and system quality-oriented. The core and peripheral conditions differ across the six paths. Therefore, to improve the communication effectiveness of cultural tourism government short videos, this paper synthesizes the relevant findings of the six configurational paths and proposes feasible recommendations for improving comment response mechanisms,

enhancing the relevance between topic hashtags and content, enriching short video content, and clarifying role positioning.

Full Text

Preamble

How Do Information Quality, Service Quality, and System Quality Affect the Dissemination Effect of Cultural Tourism Government Short Videos? —A Fuzzy-Set Qualitative Comparative Analysis Based on 161 Cases

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Abstract

[Research Purpose] This study explores the influencing factors and combinational paths of dissemination effectiveness for cultural tourism government short videos, providing theoretical foundations for enhancing government information dissemination capacity, shaping local image, and optimizing public services.

[Research Method] Drawing upon the three dimensions of the Information Systems Success Model, this study selects 161 cultural tourism short video works from eight provincial-level cultural tourism accounts with over one million followers as samples. It constructs a framework linking eight conditional variables —theme type, language type, video style, posting time slot, comment response, technical packaging, monthly average posting volume, and topic hashtags (#)—to the dissemination effectiveness of cultural tourism government short videos. Using fuzzy-set qualitative comparative analysis, six configurational paths for achieving better dissemination effectiveness are identified, revealing the conditional configurational relationships between relevant influencing factors and dissemination outcomes.

[Research Conclusions] The study finds that technical packaging is a necessary condition for achieving good dissemination effects. The six configurational paths can be categorized into three types: information quality-oriented, service quality-oriented, and system quality-oriented, with differing core and peripheral conditions across paths. To improve dissemination effectiveness, this paper synthesizes findings from the six configurational paths and proposes feasible recommendations for improving comment response mechanisms, enhancing topic hashtag-content relevance, enriching short video content, and clarifying role positioning.

Keywords: dissemination effectiveness; cultural tourism government short videos; government Douyin accounts

Introduction

(1) Research Background

With the “14th Five-Year Plan” outlining the advancement of network power construction and accelerating digital economy, digital society, and digital government development to drive transformation in production, lifestyle, and governance models through digitalization, Chinese provinces and municipalities have actively explored internet-based government services to enhance the digitalization and intelligence of public services and social governance. On June 22, 2022, the State Council issued the “Guiding Opinions on Strengthening Digital Government Construction,” requiring adaptation to digital transformation trends, releasing digital development dividends, innovating digital governance models, and meeting diverse public demands.

With the development of mobile internet, new government media has become an important platform for government services and social communication. In February 2016, the General Office of the State Council issued the “Opinions on Comprehensively Promoting Government Affairs Openness,” proposing the use of new platforms such as government Weibo, WeChat, and client applications to expand information dissemination and provide online services. Subsequently, the “two micros and one terminal” mobile government matrix was rapidly promoted nationwide, becoming a vehicle for digital government construction. Leveraging their visual narrative style, strong immersive experience, and viral dissemination characteristics, government short videos have become an important medium for local governments to build communication capacity, guidance power, and influence. The rise of short video platforms like Douyin has provided a new arena for government communication.

According to the “China Online Audio-Visual Development Research Report (2024),” Douyin and Kuaishou have user penetration rates far exceeding other platforms. Government short videos have attracted government attention because they can better understand public needs and public opinion trends. However, current government short videos face a prominent problem of “emphasizing publication over effectiveness”: some accounts maintain high-frequency updates but have long-term low core dissemination metrics; some content gains short-term traffic but fails to translate into sustained user attention and government-public interaction.

Among the diverse types of government short videos, cultural tourism government short videos occupy a pivotal position due to their rich content resources, broad audience base, and unique cultural communication value. These short videos not only showcase local natural scenery, cultural heritage, and folk customs but also serve as an important bridge connecting government and the public and promoting cultural exchange and tourism development. However, cultural tourism government short videos also face challenges of poor dissemination effectiveness. Therefore, this study, from a communication studies perspective and using 161 cultural tourism government short video cases as samples,

constructs a model of influencing factors for dissemination effectiveness, analyzing the factors affecting the dissemination effectiveness of cultural tourism government short videos to provide scientific and differentiated dissemination strategies for government account operations and contribute to the effectiveness enhancement of government new media in the context of digital government construction.

(2) Literature Review

Government short videos refer to videos lasting from a few seconds to several minutes, combining current hot topics, internet trends, and government propaganda, released by government institutions and media government accounts officially certified by Douyin (yellow V or blue V) [?]. The production mechanism of government short videos primarily employs audio-visual synchronization to enhance users' sensory experience, thereby subtly disseminating hot topics of public concern, such as important domestic and international conferences and livelihood issues closely related to the public, to shape national image and spread positive energy [?].

Current domestic research on government short videos mainly focuses on three aspects: First, research on dissemination strategies, dilemmas, and optimization paths of government short videos. For example, Qi Kai and Li Xin, based on the S3EIR model, studied and analyzed the entire process of comments triggered by the Nanjing "Mao Laotai" incident released on Douyin, finding that netizens' positive, negative, and neutral emotions affect the dissemination path of short videos [?]. Second, research on the dissemination value of government short videos, such as studies on short videos' role in constructing urban image and the value and paths of government short videos participating in social governance. Third, research on factors influencing audiences' use of government short videos. For example, Li Xiufeng explored the influencing factors of Communist Youth League Douyin short videos [?], while Yang Dasen et al. constructed a model of influencing factors for dissemination effectiveness of reading promotion short videos on Douyin, exploring the factors affecting the dissemination effectiveness of socialized Douyin accounts' reading promotion short videos [?].

Existing literature shows that previous research has focused on government websites, government Weibo, and government WeChat, with limited involvement in government short videos as a new form of government new media. Moreover, existing research mostly conducts qualitative studies at the macro level on the value significance and development prospects of government short videos, with few studies quantitatively examining the dissemination effectiveness and its influencing factors. This study takes cultural tourism government Douyin short videos as an example, constructs a model of influencing factors for government short video dissemination effectiveness, and employs fuzzy-set qualitative comparative analysis to clarify the influencing factors, primarily addressing the following questions:

Q1: Which factors influence the dissemination effectiveness of cultural tourism government short videos?

Q2: What combinational configurations exist among the influencing factors of cultural tourism government short video dissemination effectiveness, and are there any necessary conditions among them?

Research Design

(1) Research Method

This study employs fuzzy-set qualitative comparative analysis (fsQCA) to explore the configurational paths of multiple factors jointly driving the dissemination effectiveness of cultural tourism government short videos. Unlike traditional multiple regression methods, fsQCA is case-oriented and can systematically examine the causes of events and the interactive relationships and possible combinational relationships among internal factors, analyzing the effect of antecedent condition combinations on outcomes.

(2) Model Construction

This study divides the dissemination effectiveness of cultural tourism government short videos into two core dimensions. At the emotional level, it reflects the audience's psychological recognition and appreciation of content, specifically measured through user-generated positive comments to more comprehensively capture the emotional tendencies and quality of interaction. At the behavioral level, it reflects the audience's deeper interactive behaviors, including likes, collections, shares, and comments, which respectively represent social transmission of information and the depth of interaction between disseminators and recipients.

DeLone and McLean integrated previous research and first proposed the Information Systems Success Model in 1992, which was subsequently revised in 2003. The D&M Information Systems Success Model demonstrates that "information quality," "service quality," and "system quality" affect user use and satisfaction. Increased user satisfaction leads to more frequent actual use, thereby generating higher net benefits. After perceiving the benefits of the information system, user satisfaction improves and usage intention strengthens. As important indicators measuring system success, these factors in turn affect user satisfaction and usage, forming a feedback loop that drives overall information system success and sustainable development.

When exploring influencing factors, this study combines short video characteristics with existing research [?] to construct a model of influencing factors for cultural tourism government short video dissemination effectiveness (see Figure 1 [Figure 1: see original paper]). The model selects eight specific indicators across three dimensions: information quality focuses on the information core itself, including theme type, language type, style representation, and posting

time slot; service quality concerns comment response and technical packaging; system quality involves monthly average posting volume and topic hashtags [?]. This model aims to comprehensively analyze the influence of eight conditional variables across three dimensions—information quality, service quality, and system quality—on the dissemination effectiveness of cultural tourism government short videos.

1. Information Quality Yan Ran’ s study of Shandong provincial government Douyin accounts found that short videos with themes of military/police image promotion and warning education were more popular because they were closer to public daily life [?]. Deng Yuanbing and Fan Youwen, by analyzing the “Shanghai Release” Douyin account, found that video theme types affect video dissemination effectiveness, thereby assisting in urban image construction [?]. Based on existing scholars’ research, this study includes “theme type” as a variable. Combined with this study’ s research theme and the characteristics of cultural tourism government short video subjects, theme types are divided into four categories: landscape promotion, local features, policy interpretation, and others.

Short videos’ “language type” generally affects users. Characteristic dialects can attract specific users and enhance their sense of belonging and cultural identity. After government institutions enter the Douyin platform, they appropriately incorporate popular and humorous language features that are easily accepted by the public to meet users’ entertainment needs while disseminating government information. Colloquial news titles facilitate audience understanding and help bring the relationship closer to better achieve dissemination effects [?]. This study divides “language type” into three categories: written language, local dialect, and others.

Cultural tourism account creators emphasize the humorous and popular characteristics of Douyin videos, using “down-to-earth” humorous videos to promote local characteristic tourism resources, attracting user participation in short videos to achieve the purpose of disseminating regional features. Therefore, this research, based on the video style characteristics of cultural tourism government short videos, divides style representation into three categories: humorous, serious, and others [?].

Posting time slot is a major influencing factor for government short video dissemination effectiveness. Liu Xiaojuan pointed out when exploring government Weibo dissemination effectiveness that posting time affects users’ forwarding behavior on Weibo [?]. Zhu Jia and Shen Hongzhou used regression to explore emergency knowledge short videos posted by different types of publishers, finding that differences in posting time affect video dissemination effectiveness [?]. Based on existing academic research and the “Short Video Creator Work Posting Time Research Report” (2021), this study divides posting time slots into four categories: weekdays (11-13, 17-20), weekends (11-13, 17-20), weekdays (other times besides above), and weekends (other times besides above).

2. Service Quality The original intention of government short videos is to disseminate government policies, regulations, and service information, facilitating public participation in policy discussion and feedback through short video formats, and narrowing the distance between government and the public. Zhang Hongbang used “interaction awareness” as a quantitative indicator, analyzing the number of reply messages on Weibo, WeChat, and short videos, and concluded that political and legal new media in the Shaanxi-Gansu-Ningxia region lacked interaction awareness and needed improvement [?]. Wei Jiayi and Jiang Yanjia selected 40 intangible cultural heritage Douyin accounts, including “content interactivity” as one of the variables to explore the dissemination effectiveness of intangible cultural heritage short videos [?]. Government Weibo managers should actively attract user participation and respond to their intentions to bring government and citizens closer and maximize the influence of government Weibo. Therefore, this study includes “comment response” as a variable to examine the impact of whether cultural tourism short video creators reply on dissemination effectiveness.

“Technical packaging” mainly refers to short video creators using reasonable editing techniques to apply graphics, subtitles, and sound effects in short video creation processes, creating high-quality short videos to attract audience attention. A series of aesthetic designs such as background music and animated text can make short videos more refined and packaged. High-quality technical packaging is one of the influencing factors for knowledge-based short videos to achieve better dissemination effectiveness [?]. This study introduces “technical packaging” as a variable when researching cultural tourism government short videos. Since objective factors such as shooting equipment and editing software of cultural tourism creators, as well as virtual factors such as video quality, rhythm, and sound quality are difficult to measure, this study divides “technical packaging” into three intuitively measurable elements: subtitles, animation, and music.

3. System Quality “System quality” refers to the technical performance and operational characteristics of information systems, including system reliability, ease of use, and other features. Based on this study’s research theme, “system quality” mainly refers to the overall performance and effectiveness of short video platforms in terms of technology, functionality, and user experience. Zhai Yujia et al. found that the number of information releases affects information diffusion effectiveness. The fact that Weibo posting volume is seven times higher than Douyin posting volume is a major factor for Weibo platform’s higher user engagement than Douyin platform [?]. Douyin short video’s hashtag function (#) plays an important role in precise push and search. Hashtags can be regarded as hyperlinks, through which the public searches for content of interest and participates in discussions on related topics. Liu Xiaojuan et al. randomly selected Weibo accounts and found based on statistical analysis methods that link-style symbols such as “@” and “#” can enhance user forwarding behavior [?].

Based on existing research, this study divides the “system quality” of cultural tourism government short videos into two categories: first, monthly average posting volume, and second, “topic hashtags.” For example, commonly used cultural tourism government short video hashtags such as “travel guide,” “food recommendation,” and other tags with local characteristics all help viewers quickly understand the video’ s theme and content, attracting audience attention.

Figure 1 Model of Influencing Factors for Cultural Tourism Government Short Video Dissemination Effectiveness

(3) Data Sources

As of now, all 31 provinces nationwide have opened provincial and municipal-level cultural tourism accounts and obtained blue V certification from the Douyin platform. By searching for provincial and municipal-level cultural tourism accounts through the Douyin APP, using blue V certification as the identification marker, this study collected data from 31 provincial and municipal-level cultural tourism accounts and gathered their follower counts and like counts, obtaining the ranking by follower count as shown in Table 1 .

Yang Changjun, when discussing the dissemination of public policy short videos, mentioned that the number of followers of each account on the Douyin platform affects the dissemination effectiveness of content posted by the account [?]. Generally, the larger the follower base of a Douyin account, the higher the probability that its posted content will be recommended and the greater the possibility that it will be browsed and engaged with by the public. Therefore, the research subjects of this study will be selected from Douyin accounts with over one million followers, i.e., short videos will be studied from eight provincial-level cultural tourism accounts: Henan Provincial Department of Culture and Tourism, Friendly Shandong, Sichuan Culture and Tourism, Hebei Culture and Tourism, Shanxi Culture and Tourism, Shaanxi Culture and Tourism, Chongqing Culture and Tourism, and Water Rhyme Jiangsu.

Considering temporal variations, 161 short videos from official cultural tourism accounts with total provincial and municipal-level followers exceeding one million were selected from the recent eight-month period from December 2023 to July 2024. A brief overview of cases is summarized in Table 2 :

Table 1 Follower Counts and Like Counts of 31 Provincial-Level Official Douyin Accounts (Excluding Hong Kong, Macao, and Taiwan)

Table 2 Case Summary Table

(4) Variable Selection

1. Outcome Variable The outcome variable in this study is the dissemination effectiveness of cultural tourism government short videos. Cao Xun, Fang Ruolin et al., taking Guangdong provincial government WeChat as an example, used article read counts and like counts as outcome variables and conducted

regression analysis on the data to explore government WeChat dissemination effectiveness [?]. Chen Qiang and Zhang Yangyi et al., taking government short videos on the Bilibili platform as research subjects and combining Bilibili's dissemination characteristics, quantified dissemination effectiveness into three dimensions: dissemination breadth, dissemination depth, and dissemination participation, where dissemination breadth was evaluated through play counts; dissemination depth through collection counts, like counts, and coin counts; and dissemination participation through bullet comment counts and comment counts [?]. Huang Yan and Wang Xiaoyu et al. measured the dissemination effectiveness of Douyin short videos of university Communist Youth Leagues from short videos' play counts, like counts, comment counts, in-platform forwarding counts, and out-of-platform sharing counts [?]. Thus, it can be seen that when studying the dissemination effectiveness of government new media, academic circles typically use indicators such as like counts, forwarding counts, collection counts, sharing counts, and read counts as measurement standards.

Combining the characteristics of the Douyin platform, this study similarly uses like counts, comment counts, sharing counts, and collection counts of cultural tourism government short videos as indicators for measuring dissemination effectiveness. Meanwhile, Zhang, Y.'s research, through quantitative analysis methods, collected large amounts of user data on views and behaviors toward UGC, using questionnaires and experimental designs to evaluate how various UGC features (such as comments, ratings, videos, etc.) affect consumers [?]. This research indicates that user-generated positive comments can enhance content credibility, thereby influencing user behaviors such as liking and sharing, ultimately expanding dissemination effectiveness. Qi Kai et al., when exploring the influence of emotional tendencies in short video comment sections on netizens' emotions, concluded that when government short video copy and comment section emotions are dominated by positive emotions, netizens' emotions are more easily influenced by the dominant emotion [?]. Therefore, based on existing research, this study innovatively includes positive comments as an indicator for measuring dissemination effectiveness.

Among the 161 cultural tourism short videos, Python software was used to crawl all first-level comments, totaling 284,569. After eliminating meaningless symbols, emoji comments, negative comments, suggestive comments, and comments without emotional color, 68,790 valid positive comments were obtained.

Finally, indicators such as like counts, sharing counts, collection counts, total comment counts, and positive comment counts of cultural tourism government short videos were weighted and calculated. According to the importance of the five indicators, dissemination effectiveness was transformed into a measurable value, with the outcome variable formula being $Y = \text{Like Count} \times 0.3 + \text{Share Count} \times 0.3 + \text{Collection Count} \times 0.2 + (\text{Total Comment Count} + \text{Positive Comment Count}) \times 0.2$. Based on the formula, the original measurement data for cultural tourism government short video dissemination effectiveness was obtained, and the original sample data was calibrated using three calibration

anchor points at the 95%, 50%, and 5% levels. Using Excel' s PERCENTILE formula, 45,886.8, 9,559.3, and 1,309.9 were obtained and used as the full membership point, crossover point, and full non-membership point, respectively.

2. Conditional Variables This study introduces the D&M Information Systems Success Model to explore the influencing factors of cultural tourism government short video dissemination effectiveness. Ma Liang, when exploring how to expand the dissemination influence of government short videos, mentioned that factors such as video format, video theme, and character roles affect short video traffic [?]. Sun Meiling pointed out that emotional characteristics, discourse methods, and the administrative level of Douyin accounts affect the dissemination effectiveness of government short videos [?]. Combining existing research on the D&M Information Systems Success Model and the characteristics of cultural tourism government short videos, this study examines factors influencing the dissemination effectiveness of cultural tourism government short videos from three dimensions: “information quality,” “service quality,” and “system quality.” The conditional variables set are: theme type, language type, video style, posting time slot, comment response, technical support, and monthly average posting volume. Related variable explanations are shown in Table 3 , and variable assignments are shown in Table 4 .

Table 3 Variable Description

Table 4 Variable Assignment Table

Empirical Analysis

(1) Necessity Analysis

This study uses fsQCA4.0 software to analyze the data. Based on the actual situation of selected cases and combined with existing research, variables are assigned values. The data is then imported into fsQCA4.0 software to conduct necessity analysis on eight conditional variables totaling 16 positive and negative variables, obtaining results.

Table 5 Consistency Analysis of Conditional Variables

According to Table 5, the consistency of the conditional variable theme type (T) is greater than 0.8, making it a sufficient condition for cultural tourism government short video dissemination effectiveness (Y). Meanwhile, the consistency of technical packaging (TP) is 0.900213, a value greater than 0.9, indicating that this conditional variable is a necessary condition for cultural tourism government short video dissemination effectiveness. Cultural tourism government short videos tend more to disseminate the grandeur of landscapes and the long-standing historical culture of local features. Compared with traditional oral news, the presence of technical packaging such as music, subtitles, and animation in cultural tourism government short videos helps viewers understand video content more quickly, attracts audience attention through visual effects,

and under the atmosphere created by background music, also prompts users to generate behaviors such as liking and commenting. At the same time, it can be seen that the consistency of some conditional variables is below 0.8, meaning these conditional variables are not sufficient conditions for cultural tourism government short video dissemination effectiveness, but their presence still has certain impacts on dissemination effectiveness.

To further conduct configurational analysis on conditional variables, this study imported the coded and calibrated data of 161 cases into fsQCA4.0 software for True Table Algorithm analysis and constructed a truth table. Most studies in academia select a PRI threshold greater than 0.7, so this study also selects a PRI threshold of 0.7 [?]. With a sample size of 161 cases, based on existing scholars' research experience, the frequency was initially set to 2, the consistency threshold to 0.8, and PRI to 0.7. The results showed that when the frequency was set to 2, 75% of cases could not be guaranteed to be retained. Therefore, combining actual circumstances, the frequency threshold was finally set to 1, the raw consistency threshold to 0.8, and PRI to 0.7. The truth table was subsequently obtained.

(2) Configurational Analysis

This study imported eight conditional variables into fsQCA4.0 software for configurational analysis, which yielded 14 prime implicants. To avoid excessive simple solutions affecting the analysis of core and peripheral conditions, four prime implicants were selected. According to the necessity analysis of conditional variables above, the consistency of technical packaging (TP) is 0.900213, which is treated as a necessary condition. Therefore, during counterfactual analysis, technical packaging (TP) is set to "present," while the other seven conditional variables are set to "present or absent."

As shown in the table, there are six influencing factor paths for cultural tourism government short video dissemination effectiveness, and each path's consistency is higher than 0.8, with the overall solution consistency reaching 0.92. This indicates that each path has strong explanatory power for the outcome variable of dissemination effectiveness. Meanwhile, it can be seen that the overall coverage is 0.22, a relatively low value. However, existing research has not made corresponding requirements for the value of overall coverage. Therefore, the six configurational paths presented by the intermediate solution can be used as sufficient condition combinations for cultural tourism government short video dissemination effectiveness for further analysis, as shown in Table 6 .

Table 6 Intermediate Solution of Influencing Factors for Cultural Tourism Government Short Video Dissemination Effectiveness

(3) Robustness Check

This study conducts robustness checks by increasing the PRI threshold, ensuring that other threshold parameters remain unchanged, adjusting the PRI threshold

from 0.7 to 0.75, thereby obtaining a new intermediate solution of influencing factors for cultural tourism government short video dissemination effectiveness, as shown in Table 7 .

Table 7 Intermediate Solution of Influencing Factors After Adjusting PRI

As shown in Table 7, under the premise of keeping other threshold parameters unchanged, increasing the PRI threshold from 0.7 to 0.75 results in no significant changes in the output intermediate solution. The overall coverage changes from 0.22 to 0.21, and the overall consistency improves from 0.92 to 0.94, with the number of configurational paths remaining at six. This indicates that the research results are relatively robust.

(4) Configurational Path Analysis

Based on the intermediate solution and simple solution results output by fsQCA software, this study draws a configurational path diagram. The configurational path diagram consists of solid circles and hollow circles for more vivid and clear analysis of results. The four symbols “,” “X,” and “X” in the configurational path diagram represent different meanings. “” and “” respectively indicate the presence of core conditions and peripheral conditions, while “X” and “X” indicate the absence of core conditions and peripheral conditions. Blank spaces in the table indicate that conditions may be present or absent [?].

Table 8 Configurational Path Diagram

According to the configurational path diagram in Table 8, there are six combinational paths. The consistency of each path is greater than 0.8, with two paths even having consistency equal to 1, indicating strong explanatory power of the six path combinations. Based on the D&M Information Systems Success Model introduced in this study and the characteristics of configurational paths, the six configurational paths are divided into three categories for analysis.

Type 1: System Quality-Oriented

System quality-oriented configurational paths include Path 1 (S1) and Path 2 (S2). The expression for S1 is: $Y = T \times L \times \sim V \times TP \times AP \times H$, meaning better achievement of cultural tourism government short video dissemination effectiveness = Theme Type \times Language Type \times Non-Video Style \times Technical Packaging \times Monthly Average Posting Volume \times Topic Hashtag (#). The expression for S2 is: $Y = L \times \sim V \times R \times TP \times AP \times H$, meaning better achievement of cultural tourism government short video dissemination effectiveness = Language Type \times Non-Video Style \times Posting Time Slot \times Technical Packaging \times Monthly Average Posting Volume \times Topic Hashtag (#).

Both configurational paths S1 and S2 feature three core conditions: language type, monthly average posting volume, and topic hashtag (#). Peripheral conditions include theme type in S1 and posting time slot in S2. The two paths have slight differences in peripheral conditions but both can achieve good con-

figurational effects. Analysis shows that both paths tend to explore influencing factors of dissemination effectiveness from the system quality perspective. This indicates that the frequency of cultural tourism government Douyin accounts posting short videos and the topic hashtags related to video content carried by short videos have significant impacts on dissemination effectiveness.

According to the results presented by fsQCA software, S1 configurational path takes Case 7 as an example: a short video explaining oracle bone script animation released by Henan Provincial Department of Culture and Tourism in March 2024. The video is presented with background music and Mandarin narration, the copy contains tags fitting the content, and the video was posted in March 2024, when the short video posting volume of Henan Provincial Department of Culture and Tourism exceeded the average posting volume. Meeting the conditions of Path 1 (S1), it obtained 56,000 likes, indicating obvious dissemination effectiveness.

S2 configurational path is explained using Case 25 as an example. That is, a short video released by Hebei Culture and Tourism Douyin account in April 2024. As a policy promotion type short video, it mainly explained to users the content of caring car enterprises providing free pick-up services for Hebei tourism visitors. As a policy promotion type short video, it was assigned 0 in the preliminary assignment, indicating that theme type is a condition that may be present or absent in S2. The video was posted in April 2024. According to preliminary data crawling, the short video posting volume of Hebei Culture and Tourism account in that month exceeded the average posting volume. Meanwhile, the short video copy carried the topic hashtag “#Shijiazhuang Version of Guardians of the Galaxy,” with tag content matching the video content. The video received 37,000 likes, indicating obvious effectiveness of Path 2 (S2).

Type 2: Service Quality-Oriented

Service quality-oriented configurational paths include Path 3 (S3) and Path 5 (S5). The expression for S3 is: $Y = T \times L \times \sim V \times \sim R \times C \times TP \times AP$, meaning better achievement of cultural tourism government short video dissemination effectiveness = Theme Type \times Language Type \times Non-Video Style \times Comment Response \times Technical Packaging \times Monthly Average Posting Volume. The expression for S5 is: $Y = \sim T \times \sim L \times V \times R \times C \times TP \times \sim AP \times \sim H$, meaning better achievement of cultural tourism government short video dissemination effectiveness = Non-Theme Type \times Non-Language Type \times Video Style \times Posting Time Slot \times Comment Response \times Technical Packaging \times Non-Monthly Average Posting Volume.

The core conditions of configurational path S3 are comment response and monthly average posting volume, while the core conditions of configurational path S5 are language type and comment response. The two paths share one common core condition: comment response. However, according to the configurational path diagram, there are certain differences in the peripheral conditions of the two paths, but both configurational paths can achieve good

dissemination effectiveness, the reason being related to the presence of comment responses in cultural tourism government short videos.

Path S3 is explained using Case 87 as an example. That is, a short video released by Shanxi Culture and Tourism, mainly introducing cultural relics of Shanxi Museum. The video was posted in June 2024, when the number of short videos posted by Shanxi Culture and Tourism account exceeded the monthly average, meeting the core condition of this path. Meanwhile, the video animated the cultural relics in animation form with suitable background music to attract users' attention. In the comment section, the official reply from Shanxi Culture and Tourism account also included cute emojis, echoing the word "eye-catching package" in the short video copy. One reply received 1,665 likes, and the approachable image made the short video's dissemination effectiveness good.

The typical case for Path S5 is Case 59. Case 59 is a short video by Sichuan Culture and Tourism using the song of Sichuan's various license plate numbers as background music, supplemented by landscape characteristics from various places, promoting Sichuan's characteristic landscapes in a humorous video form. The overall style of this case is relaxed and humorous due to the background music, attracting users to browse and watch. Meanwhile, Sichuan Culture and Tourism officially responded to user comments. The humorous video style and witty comment responses enabled the video to receive 54,000 likes, 17,000 comments, and 20,000 forwards, achieving good dissemination effectiveness.

Type 3: Information Quality-Oriented

Information quality-oriented configurational paths include Path 4 (S4) and Path 6 (S6). The expression for S4 is: $Y = T \times L \times \sim V \times R \times \sim C \times AP \times H$, meaning better achievement of cultural tourism government short video dissemination effectiveness = Theme Type \times Language Type \times Non-Video Style \times Posting Time Slot \times Technical Packaging \times Topic Hashtag (#). The expression for S6 is: $Y = T \times \sim L \times \sim V \times \sim R \times C \times TP \times \sim AP \times H$, meaning better achievement of cultural tourism government short video dissemination effectiveness = Theme Type \times Non-Language Type \times Non-Video Style \times Non-Posting Time Slot \times Comment Response \times Technical Packaging \times Non-Monthly Average Posting Volume \times Topic Hashtag (#).

The core conditions of configurational path S4 are language type and monthly average posting volume, with theme type, posting time slot, and topic hashtag (#) as its peripheral conditions. The core condition of configurational path S6 is theme type, with peripheral conditions being comment response, technical packaging, and topic hashtag (#). It can be seen that the two configurations share core condition variables in the same dimension, namely information quality. Therefore, it can be concluded that information quality-oriented cultural tourism government short videos have better dissemination effectiveness.

S4 configurational path is explained using Case 72. Case 72 is a short video released by Shanxi Culture and Tourism introducing Shanxi's characteristic pasta. The video overall uses characteristic dubbing from the Douyin APP,

interspersed with Shanxi dialect “die (die) noodles,” attracting users to watch and browse through the short video form combining dialect and pasta images, thereby obtaining 40,000 likes. The video was posted in January 2024, when the video posting volume of Shanxi Culture and Tourism official Douyin account was 489, far exceeding the monthly average posting volume of 307. Therefore, this video well explains the S4 configurational path.

S6 configurational path is explained using Case 120 short video. This video was released by Shaanxi Culture and Tourism official Douyin account, using Shaanxi license plate number song as background music to show users the landscape characteristics of various places in Shaanxi, promoting local landscapes and local features. The video carries topic hashtags and has strong rhythm background music supplemented by subtitle and animation design. Technical packaging and topic hashtags as peripheral conditions have certain impacts on dissemination effectiveness. According to data crawled by Python, the posting time of this case was 11:30 on June 16, 2024, which was assigned 0.33 in the assignment, indicating that posting time has little effect in this path. The posted theme type is the core condition. Therefore, based on this case, it can be known that Path S6 has explanatory power.

Conclusions and Implications

(1) Research Conclusions

With the rapid development of social media and short video platforms, government short videos have gradually become an important tool for communication between government and the public. How to effectively enhance the dissemination effectiveness of government information through these emerging platforms has become an important topic in the field of public management. This study takes cultural tourism government Douyin as an example, constructs a model of influencing factors for cultural tourism government short video dissemination effectiveness from the three dimensions of the Information Systems Success Model, and obtains six configurational paths with better dissemination effectiveness through fuzzy-set qualitative comparative analysis, revealing the conditional configurational relationships between relevant influencing factors and dissemination effectiveness. The following research conclusions are drawn comprehensively:

First, technical packaging is a necessary condition for government short video dissemination effectiveness. Technical packaging appears as a core condition in all high dissemination effectiveness configurational paths, indicating that high-quality visual effects and auditory experiences are crucial for attracting user attention and enhancing dissemination effectiveness. Specifically, the reasonable application of subtitles, animation, and background music can significantly enhance video attractiveness and appeal, prompting users to generate behaviors such as liking, commenting, and sharing.

Second, information quality-oriented types have significant impacts on dissemi-

nation effectiveness. Information quality-oriented configurational paths indicate that video content's theme type, language type, and video style have important impacts on dissemination effectiveness. Specifically, selecting themes with local characteristics and cultural heritage, using Mandarin or local dialects for narration, and employing humorous or serious video styles can all effectively enhance video attractiveness and dissemination power.

Third, service quality and system quality cannot be ignored either. Service quality-oriented configurational paths emphasize the importance of comment response. Timely response to user comments can enhance users' sense of participation and satisfaction, thereby improving dissemination effectiveness. System quality-oriented configurational paths highlight the roles of monthly average posting volume and topic hashtags. High-frequency posting and precise topic hashtags can increase video exposure rates and search efficiency, thereby expanding dissemination scope.

(2) Theoretical Contributions and Practical Implications

In terms of theoretical contributions, this study first enriches research on influencing factors of dissemination effectiveness in government short videos. Traditional research mostly discusses short video dissemination strategies, dilemmas, and optimization from a journalism perspective, with few studies analyzing dissemination value and performance evaluation using Douyin accounts as examples. This study starts from the D&M Information Systems Success Model and selects multiple cultural tourism Douyin accounts for research.

Second, existing research, when exploring government short video dissemination effectiveness, mostly focuses on single dimensions or the influence of a few variables, lacking systematic analysis of complex interactions among multiple factors. This study's theoretical model not only covers three core dimensions of information quality, service quality, and system quality but also reveals the joint driving effect of complex configurational relationships among these factors on dissemination effectiveness through the fsQCA method. This comprehensive and detailed theoretical framework provides a new perspective for understanding the multiple influencing factors of government short video dissemination effectiveness.

Finally, multi-account configurational analysis enhances theoretical explanatory power and generalizability. Different from previous studies on single accounts or small numbers of cases, this study selects multiple cultural tourism Douyin accounts for configurational analysis. This large-scale, multi-case research method significantly enhances theoretical explanatory power and generalizability. Through fuzzy-set qualitative comparative analysis, this study reveals the influence paths and conditional configurational relationships of different factor combinations on dissemination effectiveness, providing more scientific and comprehensive guidance for optimizing government short video dissemination strategies. This multi-account configurational analysis not only verifies the

robustness of the theoretical model but also provides strong evidence for its application in different contexts.

In terms of practical implications, first, creators of cultural tourism government Douyin accounts need to strengthen responses in short video comment sections. After posting short videos, publishers should promptly pay attention to comments in the comment section and provide timely answers to repetitive questions. As publicity positions for government institutions, cultural tourism government short video creators need to respond promptly to user concerns and earnestly fulfill relevant responsibilities. Information in short videos that is not adequately explained should be promptly replied to and answered in the comment section to strengthen interaction with the public, thereby promoting two-way information flow. This breaks the traditional concept inherited from the “official website” era to the “micro-era” where government institutions “publish” (window display) rather than “dialogue” (organizing public discussion and consultation) [?].

Second, when posting short videos, cultural tourism short video creators should deeply analyze video content and select highly relevant tags to improve the service quality of short videos for users interested in the content, achieving the purpose of government short videos. Creators should clarify the content of cultural tourism government short videos. If it is a policy promotion short video, the tag should clearly include the policy name to facilitate users’ further search for relevant policy content and detailed understanding of relevant information.

Third, creators should focus on short video quality. During short video creation, on the basis of clear themes, appropriate language types and video styles should be selected to present the best video effects. At the same time, attention should be paid to short video posting times. Creators should use data analysis tools to understand user habits, try posting the same type of videos at different times, and observe which time period has the highest view counts and interaction rates. Based on test results, posting strategies should be adjusted to select the optimal posting time.

Fourth, cultural tourism government short video creators need to identify their own role positioning. They should be adept at using humorous and witty video styles of short videos, excavating local unique culture, history, scenery, and food, and integrating them into cultural tourism government short video creation. Government short videos should break away from past serious styles and, based on the concept of transmitting core values, post video content themes that target audiences are interested in. This will improve the influence of cultural tourism accounts and shape a good government image of sustainable tourism, cultural inheritance, and people-friendly services.

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Author Contributions

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Note: Figure translations are in progress. See original paper for figures.

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