

# Following Trending Topics: The Influence Mechanism of Chinese Hot Search Topics on Urban Dissemination in the Era of Short Video

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**Abstract:** The research on the influence mechanism of hot search topics on urban communication helps understand the media power and discourse practice of urban image construction in the era of short video. Therefore, this paper takes 17 cases of Chinese hot search urban topics from 2020 to 2024 as the research object and extracts one outcome variable and seven explanatory variables on urban hot search topics based on existing literature. Through the qualitative comparison of clear sets (QCA) analysis, it is found following trending topics has become a major way and pattern of urban public opinion discourse generation on short video platforms. On the one hand, the discourse is connected by the extension of urban hot search topics, and the spontaneous expression of netizens' demands has exceeded the topic itself and has become the public's concern. On the other hand, institutional media and mainstream media form event characterization through macro interpretation of hot topics, which often relate to urban governance and government administration, and further affect urban communication.

**Keywords:** Urban communication; Short video; Qualitative comparison; Discourse practice

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## 1. Research context

Under the traffic influence and algorithm boost of the short video platform, several Chinese cities have visualized the concrete symbolic elements from the more abstract urban cultural characteristics due to the hot search topic on the network, and condensed them into "city labels" or "city pronunciations." These topic symbols narrow people's perception, making it easier for the audience with the same perception to reach identification in the media viewing and interaction, and further to meet their own entertainment or social needs, take the initiative to integrate their own embodied understanding of city perception into the reproduction of topic meaning, so that the city image can be constructed. For example, on the creation and social platform represented by Douyin, hot search topics such as "Zibo barbecue" and "Southern small potatoes" have aroused the urban travel boom and image communication of Chinese netizens, which is indeed the recognition of local government administration behind this entertainment.

Based on the above observations, this paper attempts to break through the mainstream speculative studies and case studies in urban communication research, and adopts QCA qualitative comparative analysis to explore the interactive relationship between the characteristics of hot search topics and the media production of urban images, and explore the influencing factors and mechanisms of urban hot search topic governance.

## 2. Research design

Qualitative comparative analysis (QCA) is a research method based on the principle of Boolean algebra and the thought of set theory to investigate the combination of causes and influence ways of complex social phenomena. It integrates the advantages of traditional quantitative research and qualitative research<sup>[1]</sup>. csQCA applies to a clear set of advantages of binary assignment of variables and is also the most widely used method. This technology is selected for this study. When the variable exists, the value is 1, and when it does not exist, the value is 0, and the corresponding truth table is constructed with “fsQCA 3.0” software for specific analysis.

Following the principle of “ensuring sufficient homogeneity of the case population and maximum heterogeneity within the case population”, cases are determined by intentional sampling, which means that researchers determine research samples according to specific purposes and subjective judgments<sup>[2]</sup>.

In the selection of these 17 cases, the study refers to the “Annual Popularity List” released by China Gulway Data in the past five years, which records the popularity index of various topics on the Chinese Internet in a year by quantifying the monitoring data of the whole network, including 10 cases selected in the study. On the other hand, combined with the “Douyin Annual Observation Report” released by the Douyin platform in the past five years, the evidence and cases are supplemented. At the same time, the data of each case comes from the hot search list of Douyin topics, which has been reviewed and compared more than three times. Based on the actual data produced by May 1, 2024, the selected 17 hot search topics in cities are included in the final research sample, and sorted according to the time before and after, as shown in **Figure 1** below.

number	city	Topic generation time	Hot search words inscription
1	Wuhan	In January, 2020	Come on, Wuhan
2	Liuzhou	In May, 2020	Liuzhou snail noodle
3	Ganzi Litang	In November, 2020	Litang Ding Zhen
4	Zheng zhou	In July, 2021	Zhengzhou rainstorm
5	Beijing	In February, 2022	Beijing Winter Olympics
6	Zibo	In March, 2023	Zibo barbecue
7	Chengtu	In July, 2023	Chengdu Universiade
8	Xi'an	In August, 2023	Xi'an tiboys concert
9	Hangzhou	In September, 2023	Hangzhou Asian Games
10	Tianjin	In September, 2023	Tianjin diving uncle
11	Nam Duong	In October, 2023	The Nanyang MIDI Music Festival
12	Shanghai	In November, 2023	Halloween in Shanghai
13	Harbin	In January, 2024	Small potatoes in the south
14	Xuchang	In January, 2024	Xuchang fat east
15	Jiaozuo	In January, 2024	Yuntai Mountain Daji
16	Tensui	In March, 2024	Tianshui spicy hot
17	Handan	In March, 2024	Murilled junior high school students in Handan

**Figure 1.** Hot search topic on Douyin based on different cities

### 3. Variable setting and value assignment

According to the QCA method, based on the existing experience and combined with the characteristics of urban hot search topics, this paper sets 1 outcome variable (dependent variables) and 7 explanatory variables (independent variables), as shown in **Figure 2** below.

variable	Variable classification	Judgment instructions	Data weight	assignment	explain
Topic type	Types of tourism and entertainment	Cultural tourism or entertainment events involving the relevant areas	58.82%	1	explanatory variable
	Type of public safety	Such as refers to natural disasters, health and safety, or other public safety events that endanger the public person and property	17.64%	0	
	Types of events	The related topic caused by the major sports events in the city	17.64%	0	
	Social news type	In addition to the above three types of social topics	5.90%	0	
Topic extension	There are a lot of topics extension	Are more than 10 new topics in the 30 days of the topic	64.71%	1	explanatory variable
	There is no lot of topic extension		25.29%	0	
Subject of topic event	Folk groups	The nature of the subject involved in the topic source	52.94%	1	explanatory variable
	The official government		47.06%	0	
Heat contribution main body	We-Media	The nature of the top three video likes accounts under the topic	64.71%	1	explanatory variable
	mainstream media		11.76%	0	
	Agency media		23.53%	0	
Algorithm boost	There is an obvious algorithmic boost	Whether the related topic has been on the top three of the TikTok hot list	76.47%	1	explanatory variable
	There is no obvious algorithmic boost		23.53%	0	
Topic mood	No obvious dissatisfaction	Has there been a lot of negative text or video comments on the relevant topic event	76.47%	1	explanatory variable
	There is an obvious sense of dissatisfaction		23.53%	0	
Topic appeal	Emotional entertainment	Whether for a specific matter, hope to be improved or get some emotional support, security, etc	70.58%	1	explanatory variable
	personal security		23.53%	0	
	economic interest		5.90%	0	
Topic effect	High heat is popular	More than 30 days began to generate and develop topics	58.82%	1	outcome variable
	Low heat is popular	It took less than 30 days for the topic to generate and develop	41.18%	0	

**Figure 2.** Urban hot search topics variable settings

### 3.1. Topic popularity effect

The outcome variable set in this study is the topic popularity effect. The following conditions can be met: First, according to the popularity and cycle of topics studied in the past, each type of topic has its own rules, and according to the rules of the hot search list of the Douyin platform, a topic that can be generated and developed in the list which trended more than 30 days is a high popularity topic. Second, looking at the beginning and extension of the topic, the public opinion and netizens' discussion brought about by the topic tend to have a positive image as a whole, to effectively build an online platform for urban communication, that is, to positively shape the image of the city. Since csQCA technology uses dichotomous variables, only [1] and [0] are used to divide dependent variables. According to the main conventions of Boolean algebra, [1] means existence and [0] means non-existence<sup>[3]</sup>. Therefore, the samples that meet the positive attribute and have been on the list for more than 30 days are assigned as [1], and the other is [0].

### 3.2. Topic types

Each topic can be classified into different categories according to different criteria, and the classification of samples is also common in previous case studies, so the topic attribute of the case is an acceptable variable. Political, economic, social, cultural, natural, and other perspectives are commonly used as classification criteria in various fields. The topic attributes of the selected cases in this paper can be roughly divided into four categories: tourism and entertainment topic, public security topic, sports event topic; and social news topic. Among them, the value of the tourism and entertainment topic type is [1], and the other is [0].

### 3.3. Topic extension

This variable is mainly considered from the topic itself. The topic extension is the process of the gradual change of the topic in the process of communication, the disappearance of the old topic, the emergence of the new topic, and the process of the diffusion of one topic to several other topics. Therefore, according to the 17 case samples, the samples with more than 10 new topics on the hot search list within 30 days of the topic generation are assigned as [1], and vice versa [0].

### 3.4. Subject of topic events

Hot search topic events in main cities often have certain particularities in event direction, which may be the reason why they can have a greater influence on public opinion, so the event direction is also taken as an explanatory variable<sup>[4]</sup>. This includes civil society and the official government. The former is assigned to the folk group [1], while the latter is assigned to the official government [0].

### 3.5. Trending contribution subjects

This variable mainly considers the topic popularity and the nature of the promotion contribution subject, that is, according to the production information subject, it is divided into three categories: professional media, institutional media, and we-media. Among them, we-media is assigned [1], and mainstream media and institutional media are assigned [0].

### 3.6. Algorithm boost

The Internet has a low-cost, high-speed empowerment capability, which enhances the capacity of new collective actions, and also becomes the dominant means and channel for collective movements to obtain information, publicize, and mobilize<sup>[5]</sup>. The Douyin platform is quickly and conveniently intervening in public affairs, becoming the engine and speaker of social public opinion. Therefore, the top three related topics on the Douyin

hot list are assigned [1], and the reverse is assigned [0].

### 3.7. Topic emotion

New related events and reports are constantly integrated into existing topics to realize the dynamic extension of topics but also bring different attributes of public sentiment and public demands, and through the further development of topics, the relationship between them and the cities related to the topics is often deeper and closer. Therefore, “no obvious dissatisfaction” is assigned [1], and “there is obvious dissatisfaction” is assigned [0].

### 3.8. Topic appeal

Most of the early studies on social movements in the West started from the perspective of emotion and thought that psychological factors such as resentment were important explanatory variables to promote social resistance behavior. Similar appeals may become factors that affect the direction of public opinion and also factors that the public pays attention to the topic, so this paper also takes them as one of the explanatory variables, which are divided into emotional entertainment, personal safety, and economic interest appeals. Therefore, based on the 17 case samples, the appeal of “emotional entertainment” is assigned as [1], the appeal of “personal safety” as [0], and the appeal of “economic benefits” as [0].

## 4. Clear set of qualitative comparative analysis and results

### 4.1. Univariate necessity analysis

According to the QCA method theory, in the single-factor necessity analysis, if the consistency index is greater than 0.9, it can be proved that the conditional variable is a necessary condition to constitute the variable of the research results, and coverage represents the cases in which the combination of the conditional variables can explain the proportion of the results. Therefore, the author imported a total of 14 positive and negative condition variables such as “topic type” into fsQCA3.0 software for analysis, and the analysis results are shown in **Figure 3**. According to the results of the table, the consistency indicators of the three explanatory variables of “topic evolution”, “algorithm boost” and “topic emotion” are all above 0.9. Therefore, these three factors can be regarded as the necessary conditions for the high popularity of the topic.

### 4.2. Condition combination analysis

The premise of the qualitative comparative analysis (QCA) method is that the phenomenon is caused by the combination and interaction of multiple factors. After analyzing the necessity of a single variable, it is necessary to combine the single variables that do not constitute the necessity to see their impact on the result variable. Although the three factors of topic evolution, algorithm boost, and topic emotion passed the test in the above necessary analysis, considering that these three factors did not fully reach 1, it means that there will still be some special cases, so these three explanatory variables are added to the list of variables in the analysis again. After the analysis of software fsQCA, a total of 5 groups of variable combinations are obtained, in which “\*” is the connector of the combination, indicating the relationship of “and”, and “~” indicates the negative meaning. These five combinations cover 80% of the cases, and the combination consistency reaches 1. The following results are obtained, as shown in **Figure 4**.

To sum up, the following three combinations with the highest coverage ratio are the most typical combinations that contribute to the high popularity of urban topics, as shown in **Figure 5**.

conditions tested	consistency	coverage
var1type	0.500000	0.500000
~var1type	0.500000	0.714286
var2extension	0.900000	0.818182
~var2extension	0.100000	0.166667
var3subject	0.400000	0.444444
~var3subject	0.600000	0.750000
var4contribution	0.600000	0.545455
~var4contribution	0.400000	0.666667
var5algorithm	0.900000	0.666667
~var5algorithm	0.100000	0.250000
var6emotion	1.000000	0.769231
~var6emotion	0.000000	0.000000
var7appeal	0.700000	0.583333
~var7appeal	0.300000	0.600000

Figure 3. Variable necessity analysis

solution	raw coverage	unique coverage	consistency
var1type*var2extension*var3subject*var4contribution*var6emotion*var7appeal	0.3	0.1	1
var1type*var2extension*var4contribution*var5algorithm*var6emotion*var7appeal	0.3	0.1	1
var2extension*var3subject*var4contribution*var5algorithm*var6emotion*var7appeal	0.3	0.1	1
~var1type*var2extension*~var3subject*~var4contribution*var5algorithm*var6emotion*~var7appeal	0.2	0.2	1
var1type*~var2extension*~var3subject*var4contribution*var5algorithm*var6emotion*~var7appeal	0.1	0.1	1
solution coverage	0.8		
solution consistency	0.1		

Figure 4. Condition combination analysis

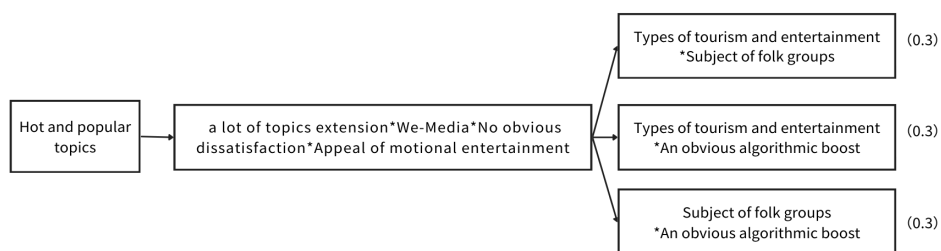


Figure 5. Three combinations that contribute to the high popularity of urban topics

### 4.3. Result analysis

According to the expression, the combination of common explanatory variables is “A lot of topics extension \* We-media popularity contribution \* No obvious dissatisfaction \* Appeal of emotional entertainment.” Among them, the consistency of the two explanatory variables of “topic extension” and “no obvious dissatisfaction” in the univariate necessity analysis is 0.9, which can be regarded as the necessary condition for the high popularity of the topic. In the conditional configuration analysis, these two variables, together with “We-media contribution” and “Appeal of emotional entertainment”, contribute to the high popularity of urban topics, and the latter two can be regarded as sufficient conditions. As long as these four conditions exist, whether it is a tourism culture topic, whether there is an algorithm boost and the nature of the topic will not play such a big role in the popularity of urban topics as the top four.

On the one hand, in the micro path of urban topic propagation, the power of self-creation of we-media is also being shown. Behind the popularity of every topic, there is a huge creative foundation. They deconstruct the original topic events through antagonism decoding and creative coding, form their discourse, and form topic interaction in short video comments or bullet screen areas. This reflects the self-participation of the we-media in the construction of communication meaning and the competition for the right to speak in the era of short video <sup>[6]</sup>. On the other hand, behind the popularity of the topic is rich practical demands, which is the aggregation of short video users' thoughts in the form of tags, reflecting their emotional psychology, life needs, and dissatisfaction with the status quo. The appeal of emotional entertainment is the reason for the high popularity of urban topics on the short video platform, which not only reflects the attributes of mass entertainment on the short video platform of Douyin but also reflects the emotional sustenance and entertainment needs of the city as a “thing” from the side.

## 5. Conclusion

The above research finds four significant micro-combination elements that affect the popularity of urban topics, and the combination path of these factors is essentially a way of generating public opinion discourse by following trending topics. On the one hand, the discourse is connected by the evolution of urban hot topics, and the spontaneous expression of netizens' demands has gone beyond the topic itself to a social issue, and they seek power in discourse. On the other hand, institutional media and mainstream media form event characterization through macro interpretation of hot topics, which often relate to urban governance and government administration, and further affect urban communication. The reason why following trending topics can quickly generate a certain public opinion, the root cause is that there is a certain opinion on the city and even the living environment in the social background, which has created strong social emotions and generated the desire for topic intervention, which is naturally reflected in the construction of narrative discourse power.

## Disclosure statement

The author declares no conflict of interest.

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