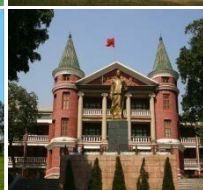




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# Research on the measure method of the event theme influence of online public opinion

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# OUTLINE

A diagram illustrating the presentation outline. It features a central globe with concentric circles around it. Five yellow spheres, each with a dotted outline, are positioned along a vertical line to the right of the globe. Each sphere is connected to a horizontal line that points to a section of the outline. The sections are: 1 Introduction, 2 Measure model, 3 Case analysis, 4 Finding, and 5 Conclusion. The background is light blue with faint architectural and circular patterns.

## 1 Introduction

## 2 Measure model

## 3 Case analysis

## 4 Finding

## 5 Conclusion

# 1 Introduction



- Online social network provides a new platform for the public to express their opinions.
- Because the data on online social network have characteristics such as diversity, relevance and complexity, identifying influential opinion leaders, opinion themes and opinion content from large amount of online public opinions is a new difficult problem for governments and organizations.

# 1 Introduction



- We should design effective method to measure the online public opinion influence, especially the influence of event theme of online public opinion.
- We provide an evaluation framework to systematically measure the “characteristics ”of the event theme influence of online public opinion.

## 2 Measure model



- The event theme influence of online public opinion depends on interactive content and the degree of interaction among public online.
- we use three measure indexes including
  - opinion text's quality
  - transmission timeliness
  - user interaction degree
  - to measure the influence of online event texts and themes.



## 2 Measure model

**Table 1. The evaluation index system of online public opinion influence**

Index state	First grade index
Static state	The quality of public opinion text
	The transmission timeliness of public opinion text
Dynamic state	The degree of interaction between public opinion text

## 2 Measure model

**Table 1. The evaluation index system of online public opinion influence**

Index state	First grade index
Static state	The quality of public opinion text
Dynami	<p><b>The quality of online event text will be evaluated by :</b></p> <p><b>user's rank (y1),</b></p> <p><b>words numbers of text(y2) ,</b></p> <p><b>the number of keywords in text(y3)</b></p>

## 2 Measure model



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Index s

Static s

**The frequency of replying (y4) could be used to express the speed of users participating in discuss, considered that the degree of concern can reflect the influence of information source**

**The transmission timeliness of public opinion text**

Dynamic state

The degree of interaction between public opinion text



## 2 Measure model



**Higher degree of interaction can attract more attention and then make greater influence.**

**Indexes, such as:**

**The hits of opinion text (x1)**

**The number of participants (x2)**

**The number of effective reply texts (x3)**

**The number of high rank repliers and forwarding people (x4)**

**The forwarding number of the opinion texts (x5), are adopted to show the degree of users' attention and fondness for the information.**

**Dynamic state**

**The degree of interaction between public opinion text**

## 2 Measure model



- The idea of measuring event theme influence is as follows:
- Firstly, we build the measure model of opinion text's influence with three-dimensional indicators based on the evaluation index system of opinion text's influence;

## 2 Measure model



- Then we construct the dynamic model to measure the influence of event theme based on the dynamic variation rule of the influence indexes with time changing on online social network.

**For the limited time,  
detailed calculation process was omitted now.**

### 3 Case Analysis



- We select sina micro-blog as experiment platform and choose online hot topics “Wan Qingliang was detained” and “Xu Caihou was detained” as online public opinion themes.



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## Party chief of Guangzhou city under investigation

Source:Xinhua Published: 2014-6-27 16:45:04



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Wan Qingliang, Party chief of Guangzhou City in south China's Guangdong Province, is under investigation for suspected serious violations of disciplines and laws, the Central Commission for Discipline Inspection (CCDI) of the Communist Party of China said in a statement on its website Friday.



Home >> CHINA

## Former military leader Xu Caihou expelled from CPC for graft

Source:Xinhua Published: 2014-6-30 18:16:46



Xu Caihou, former vice chairman of China's Central Military Commission, was expelled from the Communist Party of China (CPC) and his case was handed over to prosecutors, announced the CPC Central Committee Monday.



### 3 Case Analysis



- The observation period is 10 days from June 27th 2014 to July 2nd 2014.
- Minimum observation granularity :  
one day
- Keywords: Wan Qingliang,  
Xu Caihou

### 3 Case Analysis

Table 2 The list of partial data related to the theme T1 in day 2 (June 28, 2014 )

opinion text $A_i(t_2)$	user's rank $y_1$	the number of opinion text $y_2$	the number of high rank replier $y_3$	the number of being forwardin $y_4$	the number of high rank replier and forwardin $y_5$	the number of being forwardin $y_6$	effective reply times of opinion text $x_3$	the number of high rank replier and forwardin $x_4$	the number of being forwardin $x_5$
$A_1(t_2)$	15	118	9	29.25	41279	30	34	112	138
$A_2(t_2)$	6	120	11	3.5	198	5	5	6	10
$A_3(t_2)$	5	108	10	2.5	67	0	0	2	2
$A_4(t_2)$	11	121	13	4.5	391	5	7	10	15
$A_5(t_2)$	9	96	9	5.25	307	6	6	9	13
$A_6(t_2)$	15	139	13	24	243290	291	312	693	982
$A_7(t_2)$	11	122	10	2	299	2	3	7	20
$A_8(t_2)$	4	89	8	0.5	76	0	0	0	2

One event theme T consists of n opinion text  $A_i$ ,  $A_i$  is the ith opinion text.  $t_2$  means day 2.

# 4 Finding



Table 3

The weight of first grade indexes and second grade indexes

Second grade index↵	Weight	Weight	Weight
Rank of user y1↵	0.026↵	0.25↵	001↵
Words number of public opinion text y2↵	0.001↵	↵	002↵
The number of keywords in opinion text y3↵	0.002↵	↵	127↵
Forwarding frequency of opinion text y4↵	0.127↵	0.2↵	218↵
The hits of opinion text x1↵	0.218↵	0.55↵	107↵
The number of participants x2↵	0.107↵	↵	192↵
The number of effective reply texts x3↵	0.192↵	↵	185↵
The number of high rank repliers and	0.185↵	↵	

## 4 Finding



- The results tell that the 3 first grade indexes could be used to measure the influence of online public opinion theme.
- The second grade indexes could tell us that the dynamic state indexes of online public opinion theme have much greater impact than the static indexes have.

## 4 Finding



- Table 4. The value of online public opinion theme influence at each investigation period

Periods of time <sup>↗</sup>	Online public opinion themes <sup>↗</sup>	
	T1 <sup>↗</sup>	T2 <sup>↗</sup>
Day1 <sup>↗</sup>	18927695 <sup>↗</sup>	- <sup>↗</sup>
Day2 <sup>↗</sup>	17398701 <sup>↗</sup>	- <sup>↗</sup>
Day3 <sup>↗</sup>	10068390 <sup>↗</sup>	19722980 <sup>↗</sup>
Day4 <sup>↗</sup>	9467981 <sup>↗</sup>	19830987 <sup>↗</sup>
Day5 <sup>↗</sup>	23876 <sup>↗</sup>	14893767 <sup>↗</sup>

**The value describes the influence changing trend of opinion themes T1 and T2, which could provide scientific basis for governments to see the response of people and to listen to their voices.**

## 5 Conclusion



- The influence measure model of online public opinion theme proposed in this paper can:
  - calculate the influence of the opinion text and theme,
  - understand the spread range and dissemination strength,
  - evaluate and supervise online groups discussions,
  - and help for making important management decisions.
- It can also provided theoretical contribution to public relationship management research.



## 5 Conclusion



- Future studies can be considered from finding out more indexes to measure the influence of online opinion theme more accurately, and designing methods to evaluate and supervise the discourse influence of online public opinion leaders.



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谢谢!  
Thank you!

