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A Model of Ecological Monitoring and Response System for Internet Public Opinion

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Abstract

With the popularization and application of the internet, traditional pattern of public opinion has changed basically, and internet public opinion is cause for more and more concern. Among it, the monitoring and response to internet public opinion has become a new important task around the world. Based on the theory of internet public opinion ecology system's constitutes, this paper built up an internet ecological monitoring and response system model, including public opinion monitoring information collection, analysis, and response modules, and discussed how to monitor and respond to internet public opinion, how to transform passive response to active research management, and make rational decisions, not emotional decisions. This has certain significance for the establishment of specific systems, and the study internet public opinion scientific, systematic.

Keywords: *Internet public opinion, ecological system of public opinion, ecological monitoring and response, and public opinion guidance*

In modern society, internet information presents rapidly development. According to CNNIC estimates, as of the end of August 2013, the number of internet users in China reached 599 million, internet penetration rate is 44.7%. The rapid spread of internet information provides a convenient way for social development and people communicate, but also led to some security issues, such as: the spread of false information, dissemination of terrorist rhetoric, the spread of anti-social view. Extensive application and popularization greatly affect public opinion ecosystems.

Online information is constantly changing. As a public opinion information worker, he or she must keep real-time, dynamic information tracking. Internet public opinion ecological monitoring and response systems can use IT effectively to achieve this goal.

Based on the law of public opinion development, this paper designed a logical architecture model of internet public opinion monitoring and response system. According to the architecture model, it provides guidance for public opinion monitoring and response systems. The key function modules include information of public opinion collection, public opinion screening and information analysis of public opinion, public opinion events early-warning and report, guidance, feedback and evaluation of public opinion events, etc.

1. Internet Public Opinion Ecosystem

In internet social ecology, the subject and environments of the internet society were systematically studied[1]. Internet public opinion refers to that in a certain environment, attitude and behavioral tendencies caused by a certain events spread via the internet, under a

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certain conditions. Internet public opinion ecosystem is an important part of internet social ecological system, mainly constitute by environmental factors, the main factor and the internet public opinion rule[2].

(1) The Environmental Factor

Internet public opinion environment is the combination of factors that the whole life cycle of internet public opinion depends on, throughout internet public opinion generation, dissemination, and disappearance. It includes physical environment, social environment and resource environmental.

(2) The Main Factor

The main factor refers to the person who expresses their views and comment or carry out other activities through the network media, namely the producers, consumers, communicators of public opinion. From the most ordinary internet user to the opinion leaders in the microblog, from the government spokesman to the netizen who spread rumors, they all have the function of production, dissemination, consumption, decomposition (Public Opinion Clear) of internet public opinion.

(3) The rules of internet public opinion

The rules of internet public opinion arising from the self-regulation by the internet users and the mandatory constraints by external factors (including the legal, policy and technical limitations, etc.) in the disseminate process of public opinion[3]. It divided into endogenous rules and exogenous rules. The former format naturally based on the self-discipline and technical limitations of internet users, the latter refer to the laws and policies that enacted by government to constrain network behavior.

The ecosystem of internet public opinion is a self-organizing system. It's a result of interaction, restriction, self- evolution, and co-evolution among those elements[4].

The internet public opinion is developing very rapidly as the interaction among various factors of ecological system. But it shows excessive prosperity sometimes, various public opinion information occur frequent. In order to make the internet public opinion into a standardized and healthy development track, each part of ecological system need to work together. To strengthen the monitoring of public opinion on the internet, the collection of internet public opinion should as a starting point. Through the analysis and guidance of public opinion, and promote the disclosure and transparency of public information. As a result, the trust of masses to relevant departments was enhanced, and social harmony was promoted.

2. The research about monitoring of internet public opinion ecosystem

2.1. Research status

Foreign research on public opinion monitoring started relatively early. There are some mature systems, such as Britain's Autonomy Information Control System. It is characterized by the focus on semantic analysis in natural language retrieval, massive data information retrieval and abstracts of context, etc. There are also similar systems in China, such as Yingsun internet public sentiment monitoring system and TRS Internet public opinion management system. These systems, firstly, collect web information and data for specific topics; then analyze public sentiment from the data, using information retrieval and natural language understanding techniques; finally, present the analysis result to users[5].

2.2. Problems

Through the analysis of the research, it can be shown that existing monitoring system is mainly collecting information and data in the specific websites, and then finding public opinion by using information retrieval and natural language understanding techniques. However, many algorithms of finding public opinion are not mature, the results are not ideal. The existing researches are more concerned about the hotspot, topic detection, early-warning mechanisms and other algorithms. The study above is collecting existing information after the event happened. From the actual situation, when emergencies occurred, the internet public opinion has widely spread. At this time, it's too late to take action for the government, and that would take a lot of manpower and material resources. Therefore, the current government collects public opinion which its own departments concerned mostly by using manual mode, and to identify valuable information by artificial. So they can immediately take related measures to the public opinion which may lead to unexpected events, and carry out advance prevention to avoid further spread.

Based on that, in order to explore the governance model of internet public opinion in the background of large data, this paper aims to guide development and construction of internet public opinion monitoring system, through building a model of ecological monitoring and response system. Thus it can develop the self-purification capacity of network, and create a better environment.

3. The model of internet public opinion ecological monitoring and response system

Internet public opinion ecological monitoring and response refers to collect, analyze and process the public sentiment in the internet ecological environment, providing accurate decision basis and effective recommendations to response. The ultimate aim is to avoid the public sentiment events to the uncontrolled direction. In the ecological monitoring and response, it needs to begin with public opinion collection, discrimination of public opinion events, analysis of public opinion, early-warning and reporting, guide, feedback and evaluation of public opinion events, to build the stable system. It can also provide safety warning, decision support and response measures and other services for the upper management timely. The model of internet public opinion ecological monitoring and response system is shown below as Figure 3-1.

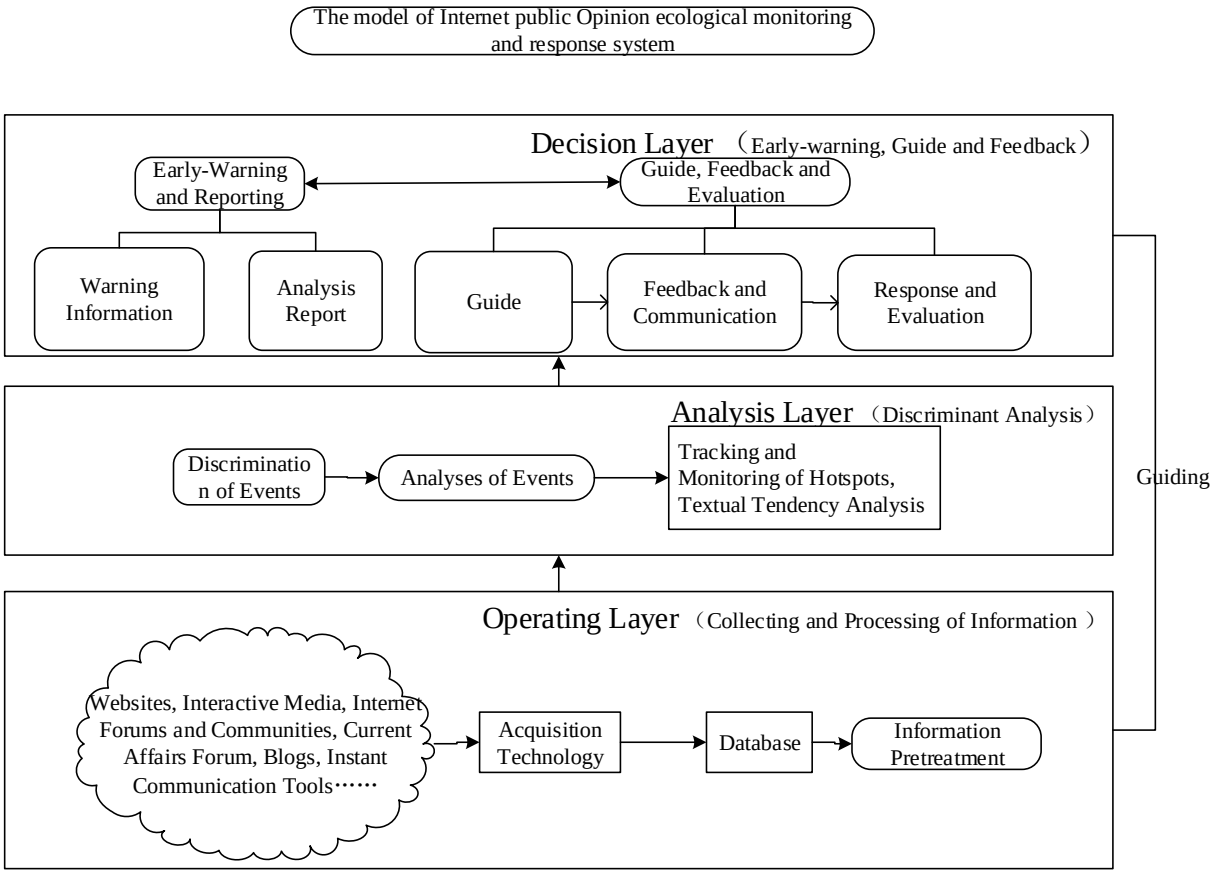

Figure 3-1. The Model of Internet Public Opinion Ecological Monitoring And Response System

3.1. Operating Layer

(1) Information collection

As the first step of Internet public opinion ecological monitoring and response system, information collection is the preparation work, a basis for following works.

① Collection Methods

It's the arduous works for the collection of internet public opinion information, as there have some different in page structure, script language, data format of web pages, which are not conducive to information collection. Meanwhile, the pages contains large amount of information. Therefore, we must fully analyze the characteristics of various web pages, and extract the corresponding original data to deeply mine the data information. It's the key of internet public opinion mining. Through the analysis, the original data of pages that can be obtained is divided into "eight types"[6]:

A. URL of web pages
B. News headlines
C. Contents
D. Description of hyperlink
E. Additional information of Web pages (time, reprinted sources)
F. Additional information of forum (the number of posts, views and reference)
G. Thread information of forum (IP, time, words number, ID of posts)
H. Navigation pages of Blog

For the "eight types", it uses the acquisition method combining centralized with desktop. By using collection tools, it achieves automatically capture, extract the contents of public opinion to the certain targets, and screens out the required information of public opinion.

② Collection Technologies

A. Search Engine

a) General Search Engines

Now search engines which are widely used such as: Google, Baidu and other search engines. They are mainly concerned about the needs of search for major users and not to be divided for specific needs. The system in general consists of a network spider, word segmentation, indexers, query and other parts.

b) Vertical Search Engines

Specialized vertical search engines are oriented to a specific professional field, and devote to their strengths and core technologies that ensures that the information in this area is fully indexed and timely updates. They have incomparable advantages in terms of providing professional information compared with the large integrated engines.

B. General Web Crawler Technology

a) Working Principle of Web Crawler

The main function of the web crawler is to automatically collect information via URL. It uses the URL to access web pages, starting from the list of URL obtained from the initial URL collection. The URLs from the initial URL collection are usually extracted from the previous records. Web Crawler crawls from one page to another through URL, until a new URL that meets the conditions doesn't generate. Specific workflow is shown in Figure 3-2.

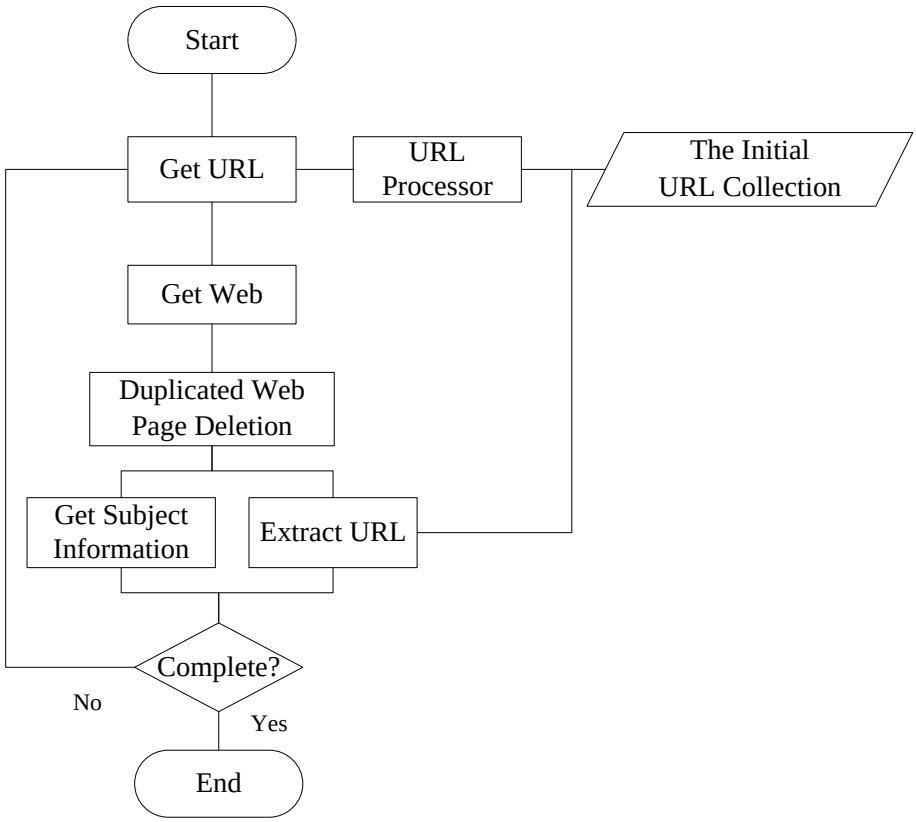

Figure 3-2. The Workflow of Web Crawler

b) Crawling Ways of Web Crawler

Crawling ways of web crawler divide into two kinds: depth first search, it only considers the hierarchical relations of links, and the links can be seen as a tree structure. Firstly, it visits a branch of the tree structure, after completing that, it's back to the root of the tree and visits another branch. Breadth-first search, it hierarchically accesses the links according to the tree structure.

C. Vertical Meta Search

a) Meta Search Engine

Meta search engine is the search engine that is built on the existing search engine service; it integrates results from multiple search engines. Meta search engine integrates services provided by multiple search engines, and offers search services to users. So it neither collects document nor has indexes; it just maintains parameter information of it managed search engines.

b) The Workflow of Meta Search

The workflow of Meta search engine is as followed. When the user makes a search request, the request is forwarded to the other search engines to find out. Then, through intermediate processing, then integrates the results returned by each search engine according to certain algorithms, and presents the results to the user [7].

Meta search engine generally consists of three components: users, Meta search engines and other search engines. It shows as Figure 3-3.

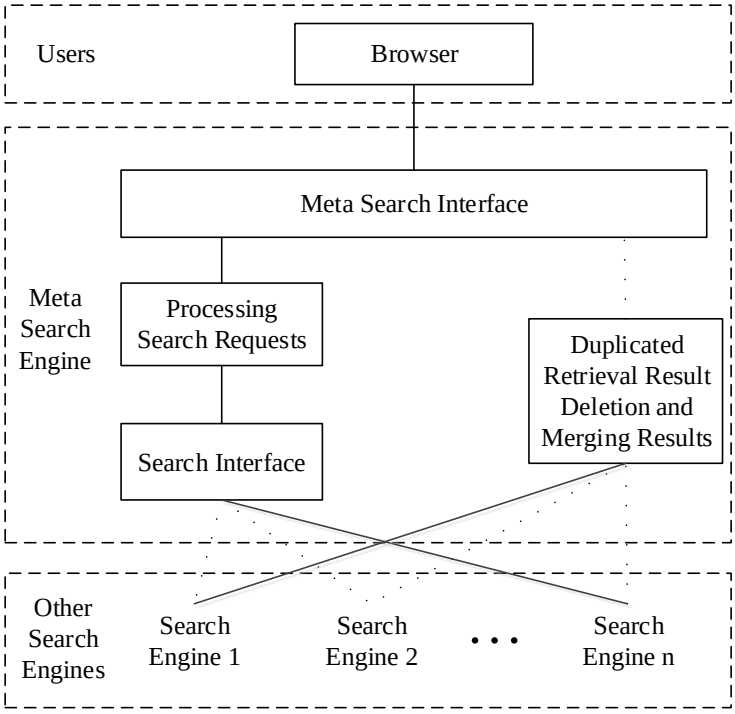

Figure 3-3. The Framework of the Meta Search Engine

(2) Information Pretreatment

Compared with ordinary documents, Web documents also contain other additional information, such as advertisement, navigation and copyright information, etc. Compared with the traditional structured data, the data structure of Web document is complex and

diverse. Based on this, it's hard for computer to directly analyze the collected original data, and it needs information pretreatment. As an important part after information collection, pretreatment's main task is to further processing for collected pages. Its work includes: web page purification, duplicated web page deletion, text segmentation, feature extraction, etc.

① Web page Purification

"Web page noise" mainly refers to the additional information that the users is not concerned about and needed in public opinion pages. These "noises" may make the subject of the page varies, resulting in inaccurate search results. Therefore, in order to improve the accuracy of retrieval, it is necessary to remove irrelevant information, determine the real subject of the page. Web page purification is one of the key technologies of information structured storage.

② Duplicated Web Page Deletion

There are a lot of duplicating and reprinting information of internet public opinion, and those make quite a number of redundant content in collected original data. In the process of retrieval and subsequent analysis, it has great probability of same content returned by multiple addresses. This phenomenon not only affects the accuracy of the analysis of public opinion trend and satisfaction of public opinion search to user, but also wastes a lot of resources to maintenance costs and storage space. So this paper induces the technology of duplicated web page deletion to avoid these at the greatest extent.

Implementation processes of duplicated web page deletion are as follows:

The first step: extract reasonable features from the input documents;

The second step: compare and judge with previously extracted features[8].

③ Text Segmentation

Text segmentation refers to divide a Chinese character sequence into some separate, meaningful words. At present the main methods of word segmentation are in three ways: mechanical word segmentation methods based on string matching, including forward maximum matching method, reverse maximum matching method, bidirectional scanning method, traversing every word method, etc.; mechanical word segmentation method of statistical models based on word frequency statistics and non-mechanical word segmentation method based on understanding (expert system method and neural network method).

④ Feature Extraction

Feature extraction is the method to extract key and effective information from the documents after text segmentation, and its purpose is separated effective information from the large number of data to reduce data dimension. In the feature extraction, there are two important aspects. They are methods of feature dimensional reduction and weight calculation.

A. Feature Dimensional Reduction

Different feature items have different importance and dipartite degree to the document. In the treatment process, feature items of lower importance are removed to accelerate running speed, and feature items of smaller dipartite degree are removed to improve the accuracy of classification. That requires establishing appropriate feature evaluation function under the circumstances to select feature items. The common methods are Document Frequency (DF), Mutual Information (MI), and Information Gain (IG) and so on.

B. Weight Calculation Methods

Because different feature item has different importance and dipartite degree to the document, it needs to weight feature item in the text formalization. The common methods of weight calculation are Boolean weights and TF-IDF based weights[9].

(3) Information Mining

Web mining refers to the process of discover and extract information from the web documents with data mining techniques. Web mining can be divided into Web content mining and web usage mining. Web content mining is mainly used in this paper. It refers to the process of finding valuable information from the content and data of web documents. The corresponding mining algorithms and directions of hot research are as follows[10]:

① Mining Algorithms

A. Information Retrieval Algorithms

PageRank Method, HITS Algorithm

B. Topic Tracking Methods

Naive Bayes, Nearest Neighbor Algorithm

C. Emotion Mining Methods

The Calculation of Emotional Bias, the Process of Emotion Mining

② Directions of Hot Research

A. Topic Detection and Tracking (TDT)

TDT aims to study and achieve discovery and tracking of the events that can be useful in the flow of news information. TDT research concerns five sub-questions: segmentation of news reports, identification of new events, and identification of reports relationships, topic detection and topic tracking.

B. Opinion Mining

Opinion mining technique is mainly used for text with subjectivity analysis and processing. Text with subjectivity is an expression way of natural language texts relative to the texts with objectivity. Its main text types are allegations and arguments.

3.2. Analysis Layer

The key demand to the platform of public opinion monitoring and response for government and business, focused on the following aspects:

- identify, analysis the hot and sensitive topic;
- analyze the opinion of the article, identifying positive and negative information;
- provide early warning, timely detect relevant events, and other sensitive topics and report;
- detect a new theme, analyze if the topic of new articles and post is same to the published;
- trend analysis, with integrating time and space information, make a comprehensive analysis of the relevant events in order to get the full sequence of events, and future trends;
- Make automatic summary and public opinion reports.

(1) Internet public opinion analysis model

① comparison relation

For public opinion, it is common to make propensity analysis for the comments of media or views of users, determine the time-based analysis model or based classification, and compare between different points of view. Event-based graphics are the most suitable for pie charts, histograms and bar charts [11]. Text orientation analysis is common in work.

View Settings in tendency analysis should pay attention to several important aspects.

A. word semantic tendency discrimination

B. The context tendency

C. Paragraph text tendency analysis

② distribution relation

Based on time, space, or strength dimension, with public opinion hotspot, attention, focus, turning points and the key points, reflecting the regional hot public opinion or a single public opinion events overall distribution, this part is very important content of the analysis of public opinion monitoring and reference basis of public opinion identifying.

③ constitute relation

A constitute relation is used to account for the performance of the number of relationships that part of the overall proportion, and comparison between the various parts. Under static conditions, the general use histograms and bar charts. More complex layers of depth comparative analysis of the composition, analytical models can be stacked waterfall chart and composite percentage of the histogram; under dynamic conditions, for the situation that the number of part changes with the changes over time, if analyze the relative differences at the same time, it can be stacked bar chart, if only analyze the relative difference between parts, the percentage can be stacked bar chart.

④ incidence relation

With the aid of 2D and 3D charts, incidence relation can reflect the internal influence between the parameters of contrast image and intuitively.

According to the scope of the opinion associated relationship generated by the internet public opinion events. The incidence relation of public opinion events can be divided into public opinion cluster of single event, public opinion clusters of multiple hot issues public opinion collection[12].

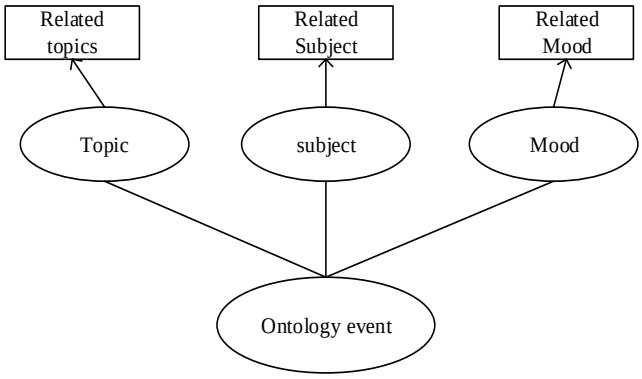

Figure 3-1. The Public Opinion Cluster in a Single Event

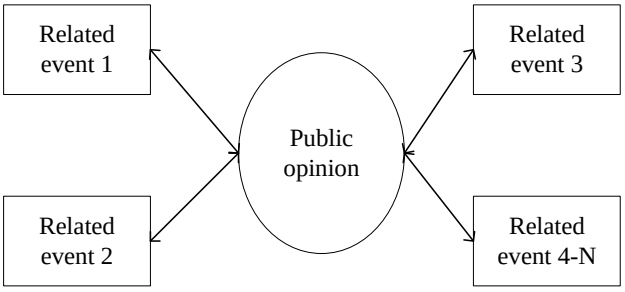

Figure 3-2. The Set of Public Opinion Between Multiple Events

(2) The internet public opinion analysis method

① automatic classification and clustering

A. public opinion sampling classification, clustering

The following process describes the theme articles classification, clustering. Among it, word segmentation system can be used to remove the stop, which is mainly consist of auxiliary word, and interjection, small amounts of the function word. Word frequency statistics uses Salton G formula, while the similarity between the texts using cosine correlation distance formula, the clustering algorithm using the K - means algorithm [13].

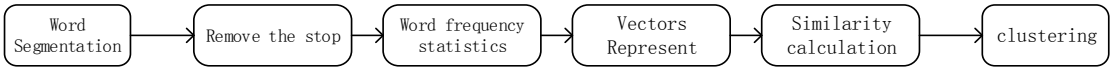

Figure 3-6. The Clustering Process

B. public opinion sampling statistics

a) The trend statistics of media coverage and internet articles on the same subject event

Make the number statistics of media coverage and internet articles on the same subject events for period regularly, and examine the tendency of a certain hotspot in internet public opinion direction.

b) media and internet articles' keywords and view statistics

c) keywords time-phased trajectory tracking

② automatic summary

Clustering is a link to a similar text units combined into one category, but to generate the final digest, it also need to extract the appropriate text unit generates abstracts in each category. When generating, a single document can be sorted according to the original order in the article, then sequentially generated abstract; multi-document summarization system when do a special arrangement to sort extracted sentences to match people's reading habits.

A. Topic Sentence Extraction

In clustering results obtained, there is a lot of content related or similar sentence, which requires elected as representatives of the sentence, summarize the central meaning of such content, such statements can enter Abstracts. The text unit within the class can be abstracted as the following figure:

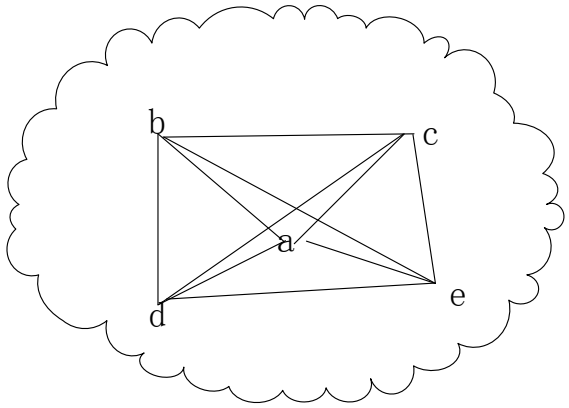

Figure 3-7. Schematic Relationships Within the Class

In the Figure3-7, "a" is the most close to the center of the class, which should be set as the abstract word and picked out. From the perspective of the geometric relationship, the distance

between the observers can be treated as the length of the edge. There are 5 points, 10 edges, each point connected to the 4 side in the figure. Obviously, the total length of the most close to the center point is the smallest. Based on this, use the formula is described below.

$$CenterEC = \min_{\forall K} \left(\sum_{i,j \in c_k} (1 - SIM(x_i, x_j)) \right)$$

Among it, EC（Eccentricity）represent the distance between each text element within the class relative class observation space center. is the distance between text units and . Comparative centrifugation of each text element in class, find the smallest eccentricity, which is closest to the central theme of this type of text unit, which is the most fit for the abstract sentence as a unit of text. Such extractor can put digest sentence from each class in which they are belong to, placed in a queue waiting for generating abstracts ready.

B. Abstracts sort

After clustering, extraction, suitable abstracts sentence is screened for abstracts, then it need to take advantage of these abstracts sentence form digest. Therefore, we must do first step: the sort.

The same sentence in a document can be determined according to their logical order of their location information in the original document, different document sentences can be determined according to the following method[14] .

Method 1: For any two sentences A and B, if they belong to an original document, the sequence consistent with the original document; if not, then find the sentences D and E in their respective classes, which is in a same document with the compared digest sentence C. In accordance with the relationship between D and E positions in the document to obtain the A and B relationship in digest; it may be in such a case, there is no such sentence which belong to the same document in each class. Then by a third party see the abstracts of their position relationship with another sentence to determine the relationship between the two.

Method 2: to determine their position in abstracts under the respective position information of the original document.

Positional parameters: $L_i = \frac{i_{SENNO}}{I_{SENSUM}}$

Among it, i_{SENNO} is the number of digest sentence “i” in the original document, I_{SENSUM} is the total number of the sentences in the digest where sentence “i” belong to.

Each digest sentence has its own location parameters, which determined its own position, the smaller the parameter, the more forward position; whereas the more rearward.

In the specific use, it need to integrate both methods, the specific process in the following figure:

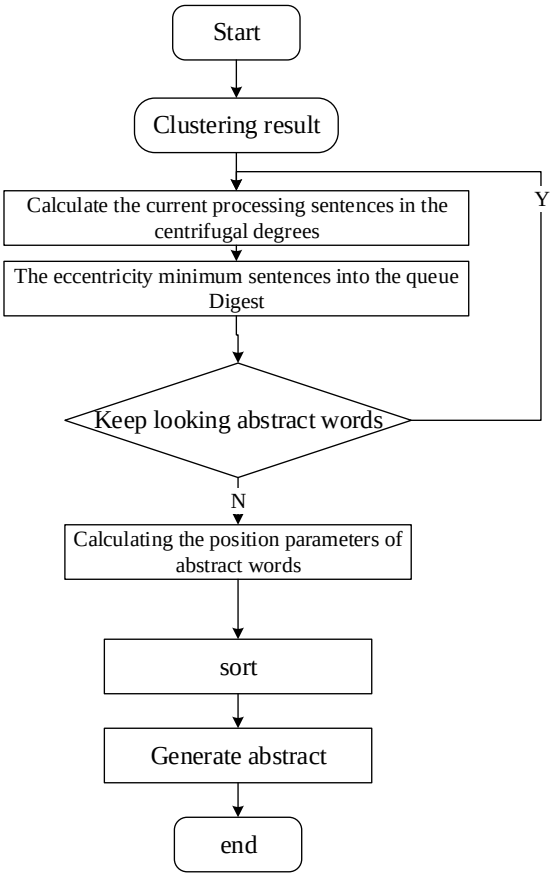

Fig. 3-8 the flow chart of automatically summary

(3) analysis steps of internet public opinion

In this paper, the main consideration is theme-based public opinion event information analysis model, after information collection, it need to analyze attention, hotspot, focus, etc.[15], and generate public opinion analysis reports.

Specific analysis comprises the following steps:

① determine the subject

② calculate the value of each index (attention, hotspot, focus, inflection, emphasis)[16]

For example:

A. hotspot analysis steps

a) Set the heat threshold R;

b) using the formula to calculate the concern degree of various topics ;

c) comparing the degree of concern with the heat threshold, if the concern is greater than the threshold, the hot topic of this theme is set, otherwise not;

d) In descending order of each hot topics to generate hot topics list.

③ analyze the event belongs to which class of internet public opinion analysis model

As for the existing internet analysis model, determine the types of events. For different events, use different representations relationships. The specific relationship as previously described. After analyzing the internet public opinion information, it need to gather and report the content to the user, this process is early-warning and report.

3.3 decision layer

(1) Early-warning of internet public opinion event

Effective information early-warning mechanism can detect various potential crises from collected and analyzed information quickly and efficiently, it can change the passive response to active. Information warning system is the most important part of the early-warning.

Internet public opinion early-warning system:

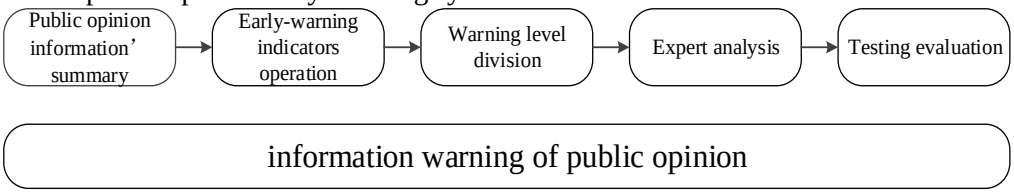

Fig. 3-9 Internet public opinion early-warning system

The early-warning system, which need summary the results from the collected and analyzed, make use of early-warning indicators to statistic the results of public opinion, then get the warning level of events. In the implementation process, it needs the help of the human brain judge.

① analysis mode of early-warning level in internet public opinion event

Early-warning level of internet public opinion constituted by the four levels: light alarm (IV level), moderate alarm (III level), heavy police intelligence (II level) and especially heavy police intelligence (I level)[17]. Show in the following table.

Tab. 3-1 Early-warning internet public opinion classification

Level	Color	Public opinion Event Status
IV	Blue	Internet users concerned about low, spreading slowly, convert to conduct public opinion is impossible.
III	Yellow	Internet users concerned about high, spreading moderate, convert to conduct public opinion is impossible.
II	Orange	Internet users concerned about high, spread fast, public opinion has converted to conduct public opinion is possible.
I	Red	Internet users concerned about very much, spread very fast, public opinion will soon be converted to conduct public opinion.

② establish of early-warning system for internet public opinion

In this paper, based on the above warning classification of internet public opinion, we build an internet public opinion early-warning system with 4 level indicators and 8 secondary indicators, as shown in Figure 3-10.

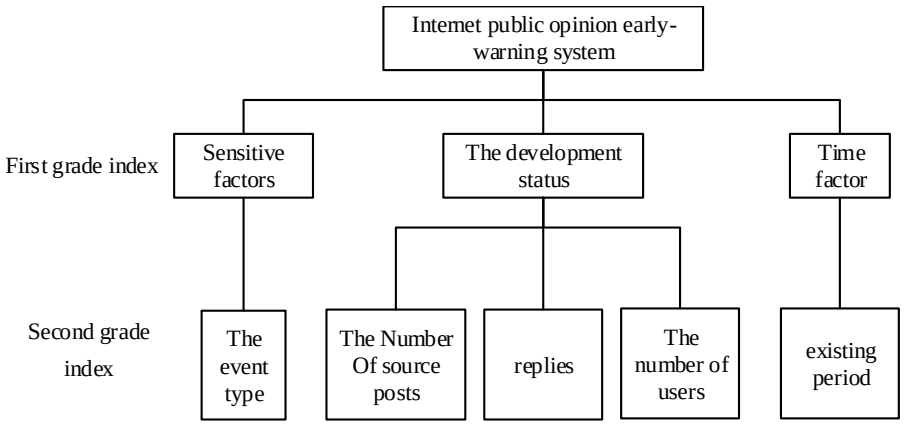

Fig. 3-10 internet public opinion early-warning system

The early-warning system can determine the type of event, analyze its state of development, and make appropriate predictions for how long it may be in the future. Finally, these early-warning information aggregated to form the corresponding reports to upper management.

On the basis of understanding the level of warning, by means of an early-warning systems, continuous monitoring, collecting the appropriate information, and making use of various techniques to explore its development law, we can make an effective evaluation for the internet public opinion event objectively and scientifically, and make accurate predictions for the development trend.

For ecological monitoring and response of internet public opinion, guidance, feedback and assessment mechanisms also should be established.

(2) The guide mechanism of the network public opinion

The guidance of internet public opinion should not only across the full range but also throughout the entire process. If consider how to guide when the news event has risen as the focus, guidance work will be lagging behind. The guidance of the internet public opinion should cover the whole life cycle of public opinion, including the generation, diffusion, evolution, extinction.

① Establish the guide mechanism

The development of information technology has a profound impact on the traditional government structure, government process, and policies formulation. It prompted the progress of the idea of governance. Facing the challenges of the information age, each government is thinking about its change.

For the government, the linkage mechanism to guide should be established first. The government should cooperate with social, media, non-governmental organizations, and civil, in addition to coordinate the relationship between the internal management.

Secondly, the most important is to establish and perfect the government press spokesman system. Empowerment the internet news spokesman, and implement accountability system at the same time. Increase transparency and establish the linkage mechanism to support internet news spokesman's work.

② Strengthen the political and legal management

Information technology have great impact on ideas, and put forward a challenge to the traditional education mode. People's sense of social responsibility and moral concept was lost in the face of the internet, it needs to strengthen the self-discipline of internet behavior,

proceed from the moral and legal. Purify the internet environment by moral means, each participant's media literacy should be improved, especially the internet media practitioners and teenagers. Besides, consolidate legal foundation, promote the transformation of guidance of public opinion to take the law as the basis.

③ Grasp the benign interaction among the mainstream media ,to form strong mainstream public opinion .

Main media concept can strengthen the internet media management. We should integrate the media resources, make full use of the overall strength of media to promote public opinion management, while the mainstream media plays an role of "opinion leaders"[18].

④ Let the "opinion leaders" function, and strengthen the construction of internet review team.

According to the "two step flow of communication" theory of Lazsifeld[19], in the process of information dissemination, the important source tend to focus on a handful of people. As the existence of personal feelings and pseudo opinion leaders, the internet public opinion tend to deviation and inclination. Credibility should be established in the perplexing environment, to realize self-education, and self-guided of netizen[20].

⑤ Realize the reasonable allocation of resources and key guidance.

In reference of "Blue Book of public opinion" of 2012 and 2013, public opinion events varies with the social development, present certain regularity at time. To achieve more effective and reasonable work, we should find its regularity and pay attention to the change of the times and realize the rational allocation of resources.

(3) The feedback and communication mechanism of internet public opinion

Information collection, information processing and information feedback is the complete process of dealing with the internet public opinion. From the formation to the widely spread, two-way feedback throughout the whole process. To achieve win-win results, the masses need feedback information positively, and the government should accept the feedback information actively.

① establish and perfect internet public opinion feedback mechanism

Internet public opinion feedback mechanism is an important part of public opinion monitoring mechanism. Timely, effective and continuous feedback mechanism, can prevent the deviations and problems, to ensure the direction. To establish and perfect the government internet public opinion feedback system, we should adhere to the two-way feedback, run through the whole process.

② establish and perfect internet public opinion communication mechanism

In the era of internet, the establishment and perfection of internet public opinion communication mechanism must focus on the communication characteristics of quick feed-back. The positive communication program will help to improve the communication mechanism. For example, establish the dedicated internet communication department and construct efficient platform[21].

(4) The summary and evaluation mechanism

Response mechanism, mainly includes public opinion monitoring, early-warning, response, neglects he key link of evaluation. Only depend on the reliable and effective assessment work, can we draw the experiences and lessons, and constantly improve the level of dealing with the internet public opinion[22]. While, at present, the management of public opinion about evaluation in China is still in deficiency. We should establish an effective evaluating management system. While improving the utilization efficiency of the resources in the media system, use assessment tool effectively. Internet public opinion assessment includes the

development evaluation of public opinion and the effect evaluation of the coping with public opinion.

① The internet public opinion assessment

There have been many domestic scholars' researches about the evaluation in recent years. They hope to construct a scientific, reasonable and effective evaluation index system, considering many factors and variables comprehensively. Primarily focus on the spread, people attention degree, sensitivity and public opinion information attitude etc[23].

② The effect evaluation of dealing with the internet public opinion

To evaluate the effect of dealing with the internet public opinion, we must fully understand the settled goals of the response to public opinion first, and the target should be divided into several component that can be quantified and investigated. Through the investigation of the influence of public opinion response measures to netizens, and the analysis of correlation, we can make the evaluation of public opinion response measures. Reasons should be analyzed and adjustments should be made timely if the public opinion response measures not achieve the desired effect, to ensure effective response to public opinion.

4. Conclusion

Internet public opinion research is produced and developed in the backdrop with growing public opinion influence. We build up an internet ecological monitoring and response model of public opinion, which has focused on the following dimensions: statistical dimensions, the main research on collecting internet public opinion information, and analysis methods, procedures, etc.; sociological dimensions, mainly to study the public opinion guidance, feedback, communication and evaluation, which includes relationships between public opinion and public policy, management theory. This has a certain significance for internet public opinion research and development.

China is now in the historical period of the Internet technology development and social transformation contradictory intersection, governance of internet public opinion in China has a very important significance. Only grasp the law of development of internet public opinion, continue in-depth study of the discipline in order to achieve scientific, systematic, and improve the comprehensive management level of internet public opinion, and improve the internet environment.

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