Mainstream Media's Promotion of the Dissemination Efficiency of Current Political News Based on Random Forestry Model in the Media Era

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Abstract:

Current affairs report is the main position of mainstream media to guide public opinion. In recent years, under the background of subversive evolution of news production, the mainstream media should also make innovative changes. Random forest has fast operation speed and excellent performance in processing big data. Random forest does not need to worry about the problem of multicollinearity faced by general regression analysis, and there is no need to choose variables. From the perspective of traditional radio and television media production practice and the form of news production, this paper re expounds the communication effect of current political reports in the field of all media. Based on the analysis of the main characteristics of current political news and the main standards of news communication power, this paper explores the promotion of current political news communication power in the media era. The study found that in the overall communication effect of current political data news, the higher the audience's perception of environmental pollution, the higher their attention when reading media content. Furthermore, their level of relevance thinking will be higher, and their knowledge memory and emotional attitude will be in a higher state after reading.

Keywords: *Random forestry model, political reports, mainstream media, public opinion guidance, news dissemination.*

I. INTRODUCTION

From the etymological point of view, the term "data journalism" was first proposed by Adrian holovaty in 2006 [1-2]. In May 2011, China began the practice of data news. The four major portal websites, namely Netease, Sohu, Tencent and Sina, successively published

columns such as "digital reading", "digital way", "illustrated world" and "news encyclopedia" [3]. Since 2013, data news has entered a period of rapid development in China, and many traditional media have also started data news columns. As for the current political data news, Netease digital reading once produced a large number of current political data news, and specially set up "politics" and "international" and other current political related works. However, since 2014, the works updated on its home page are no longer divided by plates, and the number of current political data news is gradually decreasing. At present, the media columns that continue to carry out the production and dissemination of current political data news include the data news of Xinhuanet, the graphic news of renmin.com, the digital theory of caixin.com and the art class of surging news.com.

There are many reasons for the popularity of data news, for example, the charts of data news are more suitable for the processing and processing of human visual system and thinking system"Because human eye is a high bandwidth massive visual signal input parallel processor, the maximum bandwidth is 100MB per second, with strong pattern recognition ability, the perception speed of visual symbols is more than a number of orders of magnitude faster than digital or text, and a large number of visual information processing occurs in the subconscious stage. " Moreover, due to the need of data acquisition, data analysis and data visualization, the average production time of data news is often higher than that of traditional words, and current affairs is often news with strong timeliness, which seems to be a conflict relationship. What is the communication effect of current affairs data news? Therefore, this paper tries to explore the communication effect of current political data news by using cognitive mediation theory through empirical research.

II. RESEARCH DESIGN

2.1 Research text

This study is an empirical study, which needs to use a specific current political data news work as the research object. In order to avoid the error of the survey caused by the readers may have read the research sample, this paper selects a current political topic with low degree of attention - "environmental protection inspector". Moreover, this study selects a work that has been three months since the implementation of the study to minimize the measurement error that readers may have read [4-5]. The final research text is the data news work of surging news network, a list of "looking back" transcripts of environmental protection inspectors: who is pretending to rectify in ten provinces.

The work was published on October 31, 2018. It uses seven chart forms including map, information chart, radar chart, bar chart, butterfly chart, column chart and bubble chart. In terms

of color matching, it mainly uses "yellow green" complementary color. It reports the "looking back" results of environmental protection inspection from the aspects of rectification effect, pollution type and accountability feedback after environmental protection inspection.

2.2 Research design

To some extent, the questionnaire method of this study is similar to the quasi experimental method, that is, before the respondents read the current political data and news materials, they first test their existing tendency, which is the perception of environmental pollution in this study. After that, the respondents were asked to read the designated news material, that is, a list of "looking back" transcripts of environmental protection inspectors in ten provinces: who is pretending to rectify. After reading, the self-administered questionnaire was used to measure the degree of attention to the text part and the chart part, the degree of relevance thinking, the degree of knowledge acquisition and the emotional attitude of the respondents to the environmental protection supervision action of the State Council.

2.3 Research hypothesis

For the study of the effect of news communication, we need to pay attention to the internal process and internal conditions of information processing and thinking activities, and discuss the nature and mode of human intelligent activities (including perception, learning, memory, language and thinking). Therefore, this study will also introduce mediating variables to explore the relationship between the presentation form (text part / chart part) of current political data news report and news communication effect.

(1) Overall communication effect

According to the cognitive mediation model, the audience's attitude before reading will affect their attention and relevance thinking. That is to say, before filling in the questionnaire, the degree of environmental pollution perceived by the respondents in their daily work, study and life will affect their mental activities such as attention and relevance thinking when reading environment related data and news. Therefore, this study proposes hypothesis 1 (H1): the respondents' perception of environmental pollution before reading data positively affects the audience's attention when reading data news [6].

Hypothesis 2 (H2): the respondents' perception of environmental pollution before reading the data has a positive impact on the audience's relevance thinking when reading the data news [7].

Cognitive intermediary model thinks that the audience's attention level will also affect the relevance thinking of the reading content. This means that when the audience has a high degree

of attention to the text they read, the thinking activities such as the related thinking of reading theme in their brain will also be strengthened and active. Therefore, hypothesis 3 (H3) is proposed in this study: the attention of respondents in reading data news has a positive impact on the degree of relevance thinking of respondents in reading data news [8-10].

In the cognitive mediation model, the audience's attention and information processing will affect their final knowledge and emotion. In this study, when the respondents' attention to the reading materials is highly concentrated, or when the respondents' associative thinking about the topics they read is at a high level, their knowledge memory and emotional attitude after reading will be relatively high. Moreover, since the text of this study is a positive report on the feedback work of environmental protection supervision of the State Council, this paper will assume that the respondents hold a positive attitude towards the feedback work of environmental protection supervision of the State Council after reading the materials.

Therefore, Hypothesis 4 (H4) to Hypothesis 7 (H7) are proposed in this study, which are as follows: Hypothesis 4 (H4): the attention of the respondents when reading data news has a positive impact on the knowledge memory of the respondents after reading data news, that is, the higher the level of attention, the higher the degree of knowledge memory.

Hypothesis 5 (H5): the attention of the respondents when reading the data news has a positive impact on the emotional attitude of the respondents to the feedback work of the environmental protection supervision of the State Council after reading the data news, that is, the higher the level of attention, the more positive the emotional attitude.

Hypothesis 6 (H6): the degree of relevance thinking positively affects the knowledge memory of the respondents after reading the data news.

Hypothesis 7 (H7): when the respondents read the data news, the degree of relevance thinking has a positive impact on the respondents' emotional attitude towards the feedback work of environmental protection supervision of the State Council after reading the data news.

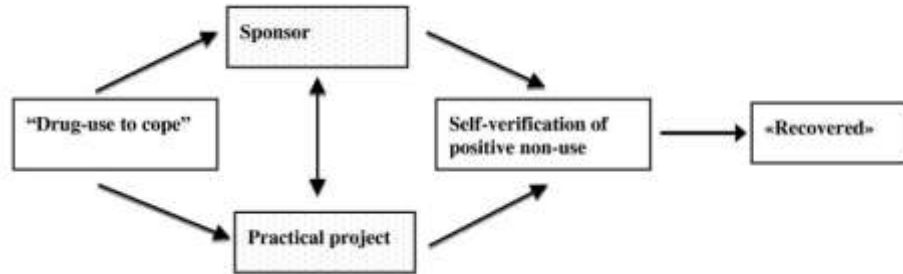The schematic diagram of the above hypothesis is shown in Figure 1.

Fig 1: Schematic diagram of the overall communication effect of current political data news

(2) The communication effect of the text part / chart part on the emotional level

The specific path analysis diagram of the relationship between variables is shown in Figure 2.
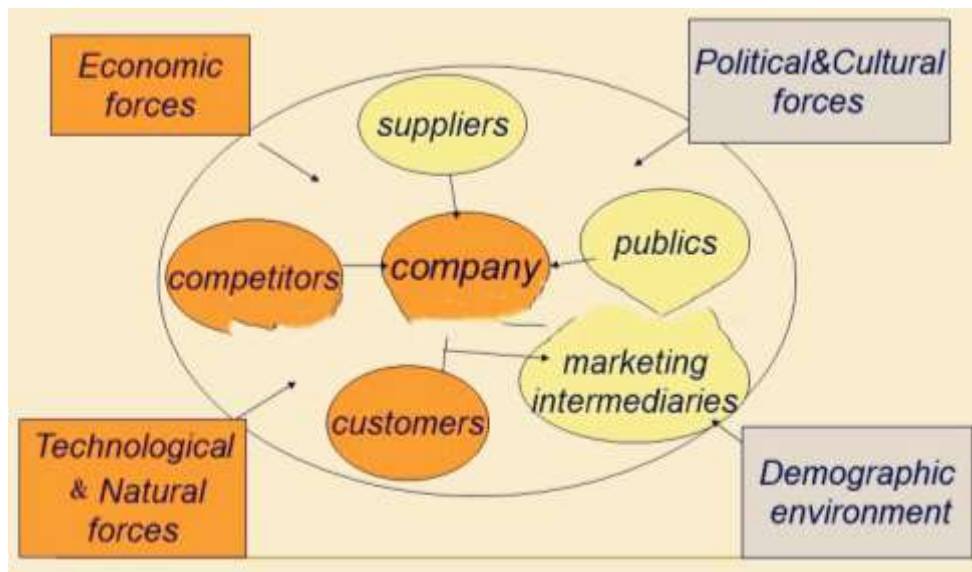

Fig 2: The text part of the current political data news and the diagram part of the emotional communication effect diagram

The specific assumptions are as follows:

Hypothesis 8 (H8): when the respondents read the data news, their attention to the text part has a positive impact on their emotional attitude towards the feedback work of environmental protection inspectors of the State Council after reading the data news, that is, the higher the attention, the more positive the emotional attitude.

Hypothesis 9 (H9): when the respondents read the data news, the relevance thinking of the

text part has a positive impact on their emotional attitude towards the feedback work of environmental protection inspectors of the State Council after reading the data news.

Hypothesis 10 (H10): when the respondents read the data news, their attention to the chart part has a positive impact on their emotional attitude towards the feedback work of environmental protection inspectors of the State Council after reading the data news.

Hypothesis 11 (H11): when the respondents read the data news, the relevance thinking of the chart part has a positive impact on their emotional attitude towards the feedback work of environmental protection inspectors of the State Council after reading the data news.

III. Data analysis

3.1 Descriptive statistics

There were 648 valid samples in this study, 309 of which were male, accounting for 47.7%; There were 339 females, accounting for 52.3%. Through the description and analysis of each variable, table 1 is obtained.

TABLE I. Descriptive analysis of variables

VARIABLE	MINIMUM VALUE	MAXIMUM	AVERAGE VALUE	STANDARD DEVIATION
Noise pollution	1	5	2.98	1.17
Air pollution	1	5	3.39	1.13
Water pollution	1	5	3.15	1.05
Health environment pollution	1	5	2.88	1.00
Pollution perception	4	20	12.4	3.74
Word attention	1	5	3.23	1.03
Chart attention	7	5	3.7	0.93
Attention	2	10	6.93	1.65
On the relevance of Chinese characters	1	5	3.35	0.87

Thinking about the relationship between charts and tables	1	5	3.54	0.79
Relevance thinking	2	1	6.9	1.51
Knowledge problem 1	0	1	0.6	0.49
Knowledge problem 2	0	1	0.85	0.35
Knowledge problem 3	0	1	0.67	0.47
Knowledge problem 4	0	1	0.63	0.48
Knowledge problem 5	0	1	0.72	0.45
Knowledge problem 6	0	1	0.82	0.38
Knowledge	0	5	4.29	1.54
Emotion	1	5	3.4	0.80
Age	17	26	21.53	1.94

In the perception of all kinds of environmental pollution, the respondents' perception of air pollution is the highest (average value is about 3.39), but the perception of health environmental pollution is low (average value is about 2.88}. This may be because the mass media reports more about air pollution such as fog and thunder, which causes the audience to pay more attention to this kind of problem, and then perceive it more.

In the aspect of attention, when the respondents read the news of current political data, they pay more attention to the chart part (the average value is about 3.70) than the text part (the average value is about 3.23). Among them, color is a factor that can not be ignored, because color "can evoke reaction, create atmosphere, symbolize concept and express emotion", which "is not only a visual phenomenon, but also has the emotional and cultural function of strengthening or hindering communication effect". In this study, the theme of the research text is the feedback work of the environmental protection inspector of the State Council. The color of the chart part is mainly "yellow green" in the cold color system, and green is closely related to plants, nature and environment, The logo of the national environmental protection administration of the United States and the icon of the mobile client of the government portal of

the Ministry of ecological and environmental protection of China use green as the theme color.

3.2 Independent sample T test for gender grouping

Previous studies rarely consider the influence of audience's gender, age and other attributes on the communication effect. Therefore, this study uses independent sample t-test to explore whether there are significant differences in gender audience's perception of environmental pollution before reading data news, and their attention, relevance thinking, knowledge memory and emotion after reading.

The results of data analysis show that women's awareness of environmental pollution, attention of text part, attention of chart part, overall attention, relevance thinking of text part and overall relevance thinking are significantly higher than men's. However, women's association thinking and knowledge memory in the chart part are higher than men's, but they are not significant. In addition, the difference of emotion between men and women after reading is almost negligible. The emotional attitude value of men is about 3.403, and that of women is about 3.402. This shows that although different gender readers have different tendencies before reading the current political data news, and their attention and relevance thinking are different when reading the data news, there is no significant difference in the knowledge acquisition and emotion after reading the data news.

IV. DISCUSSION AND CONCLUSION

4.1 Discuss

(1) The perception of pollution partly affects the audience's attention

Regression analysis of the overall communication effect shows that the audience's perception of environmental pollution before media contact will affect the audience's attention when reading current political data news. The higher the respondents' perception of environmental pollution, the higher their attention when reading. This phenomenon is consistent with the explanation of cognitive mediation theory, which believes that people's media contact and media use behavior will be affected by the psychological, knowledge and other inherent state before receiving stimulation. When people have a deep perception of environmental pollution, they will pay more attention to the environmental pollution news reports in their heart, which also shows that people's experience, motivation and psychological state will affect the realization of communication effect.

However, when the audience's attention is divided into the attention of reading the text part and the attention of reading the chart part, the data analysis results still prove that the perception of pollution will affect the audience's attention to the text part. However, the relationship

between the perception of pollution and the audience's attention to the chart part is not significant. The author thinks that the reason for this result may be that the overall level of the audience's attention to the chart part is higher than that of the text part by 13.3%. This shows that because the chart part is vivid and rich in content, and has multiple visual channels such as color coding and graphic coding, the audience with low or high pollution perception level is attracted by the chart part, so they pay more attention to the chart part. That is to say, the respondents' attention to the chart part is not affected by the perception of pollution (the tendency of the audience). This means that if the disseminator wants to spread the topics that he does not care about to the information receiver, he can use the form of data visualization and information visualization to spread, so as to improve the audience's attention to the media content.

(2) On the relationship between pollution perception and audience's attention influence

The results of data analysis show that whether the overall communication effect, or the text content and chart content are analyzed separately, the audience's perception of environmental pollution and the attention when reading data news will affect the degree of relevance thinking when reading. And the attention to the text part will affect its relevance thinking in the text part, and the attention to the chart part will affect its relevance thinking in the chart part. Different from connectionist cognitive psychology, cognitive mediation theory holds that people's learning of news knowledge does not lie in the formation of the connection between stimulation and response, but in the process of individual subjective "decoding coding" to form a "cognitive structure". In media contact, human beings do not mechanically receive stimuli (media content) and react passively, but actively and selectively acquire media content and carry out information processing programs such as relevance thinking. This kind of information processing is not only affected by the attention of the media, but also by the psychological state (such as the perception of environmental pollution) of the readers before contacting the media content.

4.2 Conclusion

(1) Step by step: the generation path of communication effect of current political data news

In terms of the overall communication effect of the current political data news, the higher the audience's perception of environmental pollution before contacting the current political data news, the higher their attention when reading the media content, and the higher their level of relevance thinking, and finally their knowledge memory and emotional state are in a high state after reading. Specifically, attention when reading data news is the intermediary variable between the readers' perception of environmental pollution before reading and the degree of relevance thinking when reading, and it is not a complete intermediary, because the readers' perception of environmental pollution will also directly affect the readers' relevance thinking when reading. It's easy to understand that people have more associations and thoughts about

what they have experienced and perceived. In cognitive and emotional communication effects, the effects of attention in reading on knowledge memory after reading (standardized coefficient is about 0. 12) and emotional attitude towards the feedback work of the State Council's environmental supervision (standardized coefficient is about 0. 15) are also smaller than the effects of related thinking in reading on knowledge memory after reading (standardized coefficient is about 0. 36) and emotional attitude (standardized coefficient is about 0. 38). In addition, some studies, like the analysis results of this paper, find that the influence of related thinking in reading is greater than that of attention in reading. Of course, the difference of specific effects is related to the difference of reading materials and the detected knowledge content, so it is acceptable to have different results, mainly to clarify the conditions for producing effects.

(2) Between equal and equal: the difference of communication effect between words and charts at cognitive level

If the content of current political data news is divided into chart part and text part, it can be found that readers' attention and related thinking about the chart part will be higher than that of text part. Readers' attention to text part will be affected by their perception of environmental pollution, while audience's attention to chart part is not restricted by their perception of environmental pollution. Readers' attention to the text part will affect the related thinking of the text part, and the reader's attention to the chart part will also affect the related thinking of the chart part. In addition, the audience's perception of environmental pollution will not only indirectly affect the relevance thinking through the influence on the attention, but also directly affect the audience's relevance thinking. However, there is no significant relationship between the attention of the text part and the knowledge memory after reading, while the attention to the chart part can not only directly and positively affect the knowledge memory after reading (the standardization coefficient is about 0.11). And it can also indirectly influence the knowledge memory after reading by thinking about the graph. Therefore, when the reader's attention and relevance thinking are at a certain level, the difference between the text part and the graph part of the data news is very small, and the effect amount is almost equal.

V. CONCLUSION

The communication effects studied in this paper are divided into cognitive and emotional levels. The cognitive level is from the perspective of knowledge memory, and the research is short-term memory. The duration of short-term memory is generally considered to be about one minute. Therefore, this study conducted a memory test after the respondents read the materials. Therefore, the long-term memory effect of current political data news has not been studied. In addition, this paper takes the chart part of data news as a whole. However, due to the variety of

charts, this study has not been able to measure the differences between different kinds of charts, such as column chart, bubble chart, map, radar chart and so on.

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