Research on Discursive Construction of ChatGPT-reports by CNN and CCTV

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ABSTRACT

As two national star TV media, American CNN and Chinese CCTV have made ChatGPT-reports respectively since the release of ChatGPT on November 30, 2022. Based on Van Dijk's Discourse Theory, this paper selects relevant ChatGPT-reports in FACTIVA database, analyzes the discursive features between the two media with the help of Word-cloud and Antconc corpus, and finally explores the reasons for the discursive construction between CNN and CCTV.

Keywords: ChatGPT-reports, CNN, CCTV, Van Dijk, Discursive construction

1. INTRODUCTION

ChatGPT, an artificial intelligence technology-driven natural language processing tool, has become a global sensation since it was released on November 30, 2022 by OpenAI, and it was reported that in only 5 days there were more than 1 million registered users worldwide(Wen, 2023). Therefore, as two famous TV media, both American CNN(Cable News Networks) and Chinese CCTV(China Central Television) poured due attention for the related reports. "Figure 1" and "Figure 2" below are the trend of their reports number quoted from FACTIVA database during December of 2022 and June of 2023.
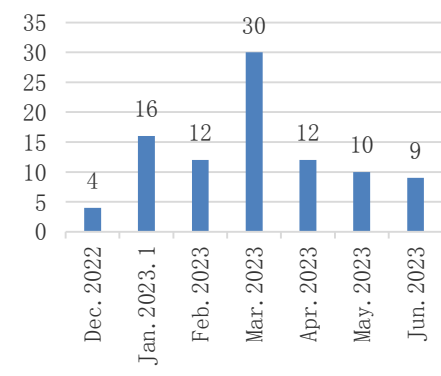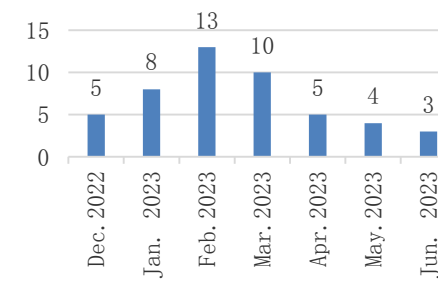

Figure 1 CNN: ChatGPT reports.

Figure 2 CCTV: ChatGPT reports.

From December of 2022 to June of 2023, the total numbers of ChatGPT-reports in CNN is 93, only 4 in December, reaches to its peak in March, then sharply drops later, and until in June, comes to the bottom. Compared with CNN, the total number of ChatGPT-reports in CCTV is 48, only 5 in December, reaches to its peak in February, and then cools down in June with only 3.

Undoubtedly, different TV media will present certain gap when reporting the same topic respectively. Consequently, this paper, based on Van Dijk's Discourse Theory in the field of communication, aims to explore the following issues: First, what differences lie in the two TV media when selecting the thematic-topics of ChatGPT-reports? Second, how does the rhetorical frame influence their angles of ChatGPT-reports?

Third, what are the factors behind the choice of the attitude words in their ChatGPT-reports?

2. LITERATURE REVIEW

Discourse analysis enjoyed a long research history in western academics and abundant researches had been carried out extensively. Among which, Van Dijk(2003) of the Netherlands was regarded as the pioneer who set feet on the discourse studies and media studies as well. After 1990, he advocated to apply theories of sociology, psychology, communication and journalism to the discourse analysis. Therefore, "social-cognitive-discourse" triangular theoretical framework, analyzing and reinterpreting ideology from the perspective of discourse and communication had been built. He then pointed out that the way of news narration may reflect through the unique discursive construction as media's "social context", "reporting orientation" and "emotion attitude", which were viewed as a milestone theory in this field.

Domestically, discourse analysis started comparatively late in China. Although there were some researches on discourse analysis from the perspective of pragmatics, it was until 2003, when Van Dijk's"News as Discourse"(Van Dijk, 2003)being introduced into China, that Van Dijk's theory of combining his linguistic and journalism research was give sufficient attention. In recent years, Van Dijk's theoretical frame have been used to explain mass events such as the Sino-Australian news reports on COVID-19 pandemic. (Dong, 2023).

However, regretfully, for all the contributions the above researchers had made, seldom did they apply Van Dijk's Discourse Theory to the AI-related reports, let alone the ChatGPT-reports done by different media, which seem to be worthwhile and also more challenging.

3. RESEARCH METHODOLOGY

Research questions: (1) Discursive features of the ChatGPT-reports between CNN and CCTV

(2) Reasons behind the diversified discursive construction of the ChatGPT-reports between CNN and CCTV

Research samples: Samples are selected from December of 2022 to June 30, 2023 in FACTIVA Dow Jones database corpus, and valid ChatGPT-reports in CNN and CCTV are collected.

Research instrument: Softwares of Wordcloud and Antconc corpus

Research procedure: (1) Sample-collection: In FACTIVA Dow Jones database corpus, valid reports, CNN(93) and CCTV(48) were sorted out the and ChatGPT thematic-topics were summarized.

(2)Sample-analysis: Through the Wordclouds software, ChatGPT-reports thematic-topics between CNN and CCTV were visualized. Then, thematic and attitude keywords were utilized by Antconc corpus software, and word frequencies and lexical properties were analyzed.

(3)Conclusion-drawing: it is to figure out the gap between CNN and CCTV on ChatGPT-reports discursive construction.

4. RESULTS AND DISCUSSION

After data-collection from the FACTIVA Dow Jones database corpus, the group carried out the research by applying the data to the Wordcloud and Antconc corpus for further analysis, therefore, the different thematic frames between the two media were illustrated in Wordcloud, and rhetorical words and attitude words were analyzed thus different rhetorical features and attitude words being displayed.

4.1 Features of Thematic Frame: Reflective VS Functional

In the process of discursive construction, thematic analysis acts as a tool for the media to make a narrative from the perspective of narrator and social context(Van Dijk, 2003). Generally, judging from our research, in view of thematic frame, CNN seemed to be reflective while CCTV more functional.

The thematic words with a higher frequency in the Wordcloud map by CNN are "ChatGPT", "technology","tool","company","openAI","micros oft"and "Altman", indicating that the media reports focused on "technology" and"economy". Besides, the sub-thematic words by CNN also included "politics", "copyright", "travel" and "education".

However, the thematic words with a higher frequency in the Wordcloud map by CCTV are "ChatGPT", "Chinese", "technology"and "company". Besides, the sub-thematic words by CCTV also included"e-commerce", "finance" and "education".

Furthermore, typical titles in CNN related to thematic topics of ChatGPT included as "Mark Zuckerberg looks to 'turbocharge' Meta's AI tools after viral success of ChatGPT" (2023-02-28), "300 million jobs could be affected by latest wave of AI, says Goldman Sachs"(2023-03-02), "FTC chair Lina Khan warns AI could 'turbocharge' fraud and scams (2023-04-01)", "ChatGPT's responses to suicide, addiction, sexual assault crises raise questions in new study (2023-06-07)", "Google begins rolling out its ChatGPT rival (2023-06-07)". And in the subsequent reports, frequently, Chinese technology companies as "Baidu", "Alibaba" and "Tencent" were mentioned. In a report titled "OpenAI CEO Sam Altman to testify before Congress(2023-05-01)", the target mentioned in the report was the "Wenxin Yiyan", a generate-AI product by Baidu. Therefore, the selection of theme words in CNN mainly focuses on "risk response" and "technological competition".

However, typical titles can be found in CCTV such as "iFlytek demonstrates new AI writing tools based on its own language model (2023-05-10) ", "Baidu puts ChatGPT -like service on search engine as global race intensifies (2023-05-13) ", "AI is here to stay and must be embraced (2023-06-25)", "China CAC chief warns of AI dangers (2023-06-27)", "Chinese universities face up to AI-generated research papers (2023-06-25)". The above reports pointed out the problems of AI in academic writing, that is, AI is a miracle, but on the other hand, it has limitations. Facing this double-edged sword, we have to balance the benefits and risks. As can be seen, CCTV is more objective in most of its accounts of the ChatGPT, and does not elaborate on it from only one aspect. Therefore, the most obvious characteristics of CCTV in the selection of thematic topics mainly are "technology revolution" and "technology improvement".

Being a leading TV media in America, CNN International news coverage has its unique advantages over other media with its 24-hour rolling live program broadcasting. For it provides the same information to the world at the same time, and the same topic for discussion, it can make people get the same emotion and the strong feeling of being one. So it is supposed to steer the orientation of the discourse, thematic frame as "risk response" and "technological competition" seem to be more reflective, which may be beneficial for thinking or commenting, and also may form the trend for discussing or further debating.

CCTV is a Chinese news organization directly under the State Council and the main position of ideology and culture. CCTV's news program is known for its authority, objectivity and in-depth reporting. CCTV's ChatGPT-reports, the narrative is often objective and pertinent, often unfolding with current events, highlighting the timeliness and authority of the reports, the content should be mostly positive, mainly highlighting the high expectations and positively embracing new technology. Therefore, thematic frame of CCTV should be more functional, with the reports focused on how the new technology would change our lives as well as the world.

4.2 Features of Rhetorical Frames: Metaphorical VS Straight

In recent years, Zhang (2020) utilized corpus to derive various kinds of high-frequency words for better analyzing the media's rhetorical frame and it proved worthwhile.

Although the time and field of coverage of the CNN and CCTV are different, the themes of the reports mainly focused on "technology" and "economy". However, when the TV media of the two countries focused on these themes at the same time, they would show very different discourse rhetorical favors thus forming their rhetorical frame respectively.
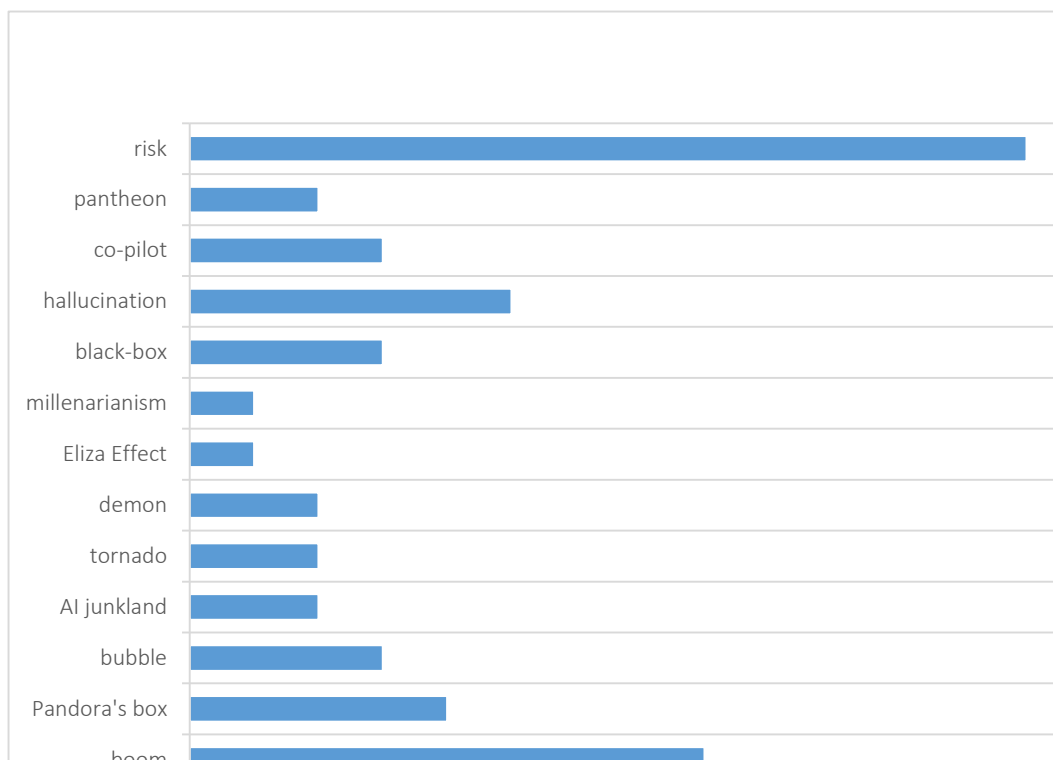
Figure 3 High-frequency words in CNN.

As shown in "Figure 3", when mentioning on the advantages of "technological revolution", CNN used more cultural-loaded metaphors as "pantheon" (a massive and symbolic Roman building) "Co-pilot" (which means AI + utilization in different fields), indicating the boundless favors ChatGPT will bring to the world. Whereas.

Then, when talking about "competition", CNN was inclined to use cultural-loaded metaphors as "AI-junkland"(a place where everybody may trudge in) and "demon"(indicating the severe competition ahead), also, "Eliza effect(indicating that people may falsely attach meanings of symbols that they ascribe to artificial intelligence in technologies)" and "tornado"(indicating the mighty power of AI competition), all of which built up an image that the potential ChatGPT competition is severe globally.

When referring to "risk", CNN preferred to use "bubble"(emptiness), "hallucination" (uncertainty) "Pandora's box" (originated from Greek mythos, a box containing evil and disaster, it appeared for 4 times), "black-box" (box containing negativity), and finally the key word "threat" appeared for 14 times.
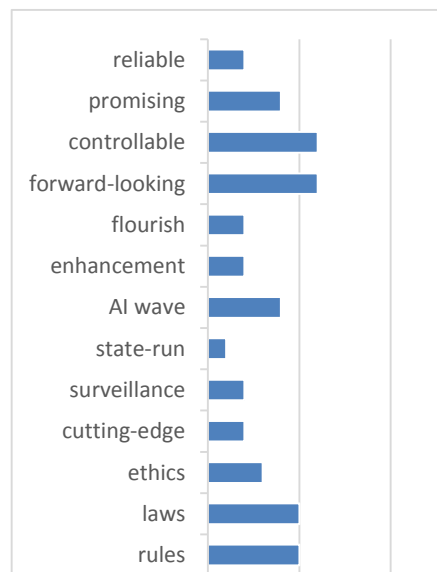

Figure 4 High-frequency words in CCTV.

As shown in "Figure 4", CCTV used words such as "promising" and "AI-wave", indicating Chinese positive attitude to embrace this newly-born technique in AI field.

Instead of using negative metaphors, CCTV preferred to use words as "Cutting-edge", "forward-looking","flourish","enhancement", "rules", "laws"

and "ethics", showing Chinese objective attitude to the future AI competition.

Also, CCTV was inclined to use the words as "reliable","controllable","surveillance"and"regulation", which directly establish a positive image when government is facing the potential AI risks ahead.

In the discursive construction of the news, metaphor plays a role in guiding and persuading readers to construct a specific mental model about the event, and through the repeated use of these metaphors, the audiences' mental model is continuously strengthened and solidified, thus contributing to the construction of the social context model, and realizing the purpose of influencing the public's view and constructing political reality (Liu, 2021).

In a word, to strengthen certain mental model, instead of being opaque and express their opinions more directly, CNN adopted the rhetorical frame metaphorically for commenting on the new technology. In contrast to such rhetorical style, as the representative voice of Chinese authority and central government, CCTV tended to abide by the principle of narrating the facts more concisely and directly, therefore, they were likely to express more straightly.

4.3 Features of Attitude Words: Negative VS Positive

Van Dijk (2003) pointed out that language, especially language in media is much more biased, therefore, the process of its discursive-construction would be the same. According to Van Dijk's Discourse Theory, the proportion of attitude vocabularies used by the media tended to represent its potential influence towards the issue.

In the latter, the authors may illustrate the proportion of attitude words between CNN and CCTV for analysis.
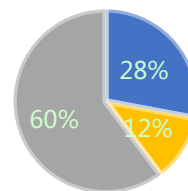

Figure 5 Proportion of attitude words in CNN.

As shown in "Figure 5", according to our corpus survey, among 93 pieces of ChatGPT reports made by CNN, there were 60% of the negative attitude words. The proportion of positive words was 28%, and the proportion of neutral words was 12%, which was much lower than the proportion of negative words. Among these negative words, most of them were metaphorical terms, to some extent conveying CNN's uncertainty and fear about the development of ChatGPT, which also might cause panic in the society.
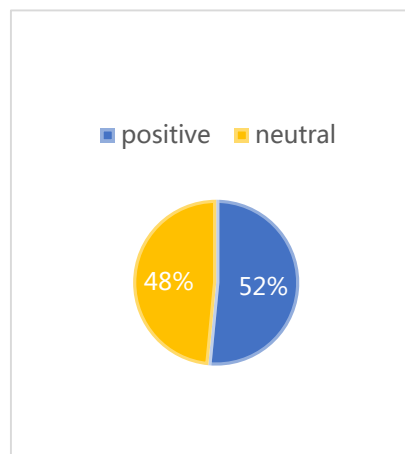

Figure 6 Proportion of attitude words in CCTV.

As shown in "Figure 6", according to our corpus survey, among 48 pieces of ChatGPT news made by CCTV, there were 52% of the positive attitude words. The proportion of neutral attitude words was 48%, and there were nearly no any negative attitude words. This had also confirmed that CCTV's reports focused more on the future development and opportunities of ChatGPT. So the overall attitude of the report was mainly positive and with appropriate reflections. Being relatively

positive and neutral, CCTV's ChatGPT-reports more aimed to clearly evaluate the current national situation and the development trend of science and technology, and also reflect Chinese attitude to embrace this approaching technology revolution.

Admittedly, diversified as their journalism values were, both CNN and CCTV showed certain bias in selecting attitude words. Since CNN functioned as a tool for influencing or monitoring government, while CCTV, acted as a window to inform government policy, therefore, CNN may be determined to construct a social context with potential "threat" and "risks", highlighting the uncertainty ChatGPT would bring to the whole world, so its ChatGPT-reports were full of negative attitude words. On the opposite, as the voice of Chinese authority, CCTV shouldered the responsibility of informing Chinese government's support for AI development, under the impact of enhancing governmental policy and inspiring national investment, ChatGPT-reports in CCTV undoubtedly would be full of positive attitude words and some neutral attitude words related to governmental policy and regulations.

5. CONCLUSION

CNN and CCTV, even with their respective and as world-renowned news institutions, play vital roles in their propaganda to the world. Therefore, in the field of international news reporting, they seem to be both cooperative and competitive. On the one hand, they can exchange or even share news and information; While on the other hand, they strive to win the favor of the audiences by making exclusive news reports, or spread their values in the public and finally even exert their potential power globally.

In terms of the thematic words selection between CNN and CCTV, by analyzing the high-frequency Word Cloud map, this paper explores that for the same ChatGPT-related issues, CNN focuses more on "competition" or "risk" response, whose thematic frame is likely to be reflective, while CCTV touches upon "development" and "opportunities", whose thematic frame is more functional.

In terms of corpus study on the frequency of rhetorical and attitude words in ChatGPT-reports done by CNN and CCTV, judging from the proportion of rhetorical words, positive, negative and neutral attitude words in the charts, this paper give a concrete analysis on the different discursive qualities of the two media.

Due to the biases lied in the two media, for ChatGPT-reports done by CNN, they are more likely to make extensive use of cultural-loaded metaphorical words, for one thing, to cater to the taste of the western world, for another, to intensify their manipulation for the reporting trend worldwide. Therefore, radical and eye-catching as these news were, they might not be objective as they claimed. While,with no more deliberated-chosen metaphors, CCTV prefers to describe the objective facts through interviews with experts in the field and social surveys of the public, the large use of positive and neutral attitude words, although plain, also seem to be objective.

AUTHORS' CONTRIBUTIONS

Rufei Liu, Phd, Associate Professor in Wuhan University of Technology , is responsible for the topic-selection , theory-analysis and the whole process of writing and revising.

Yan Ran, Zhengxin Xiong and Yihan Hu, post-graduate students in Wuhan University of Technology, are in charge of data-collection and software-analysis.

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