Exploring Climate Change Communication through Chinese Online Videos

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Abstract

With the rapid development of China's economy, the Chinese government has increasingly focused on clima te change issues. Media is an important channel for the public to obtain information, and its coverage of clim ate change may influence public perception and willingness to address this issue. In the context of new media, online videos have become an indispensable means for the public to acquire information. Mass media is one of the main sources from which the public obtains information.

Key words: climate change, climate communication, crisisonomy, online videos.

I. Introduction

The complexity and importance of climate change necessitate recognition and understanding from society an d the public. Only through this can we better attract societal attention and public involvement, mobilizing the collective efforts of society to address climate change. As a result, the field of "climate communication," whic h focuses on studying climate change and addressing public communication issues related to climate change, is increasingly gaining attention from governments, media, and academia(Zheng and Gong, 2012: 3).

The negative impacts of climate change on humanity are immense and global, with no country immune to its effects. Therefore, it is imperative for all countries to actively participate in addressing it and make their re spective contributions. Climate change is increasingly intertwined with human survival, livelihoods, economic a nd social development, and is becoming increasingly disconnected from the social risks experienced by humani ty(Zheng and Li, 2011: 11).

According to the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, it is evident that human activities have had various clear impacts on the climate system across all continents. Furthermore, these impacts are continually intensifying. If left unchecked, they will lead to severe, widespread, and irreversi ble consequences for both humanity and ecosystems.

Although the Chinese public's acceptance of the scientific conclusions regarding climate change is very hig h, according to a survey by the Pew Research Center in 2015, China and the United States, two major carbon -emitting countries, are the least sensitive to climate change. Only 15% of Chinese and 30% of Americans ex press concern about the potential harm climate change may bring to themselves, far below the global average

of 40% (Bruce, 2015). Moreover, among various environmental risks, climate change is particularly unique. It "does not trigger public attention with any apparent events, and most people have indeed not had similar pers onal experiences to truly appreciate the real existence and urgency of climate change-related risks, rather than speculations and imagined scenarios."(Elke, 2006: 103). In this situation, accurate dissemination of climate chan ge, especially the progress in climate science research, becomes crucial(Zheng and Gong, 2012: 5).

This study conducts content analysis on how these media report on a particular event or a specific type of issue, and how the audience's acceptance and understanding of the climate change information presented in the videos are evaluated. The main research content of the media presentation part includes video sources, video types, thematic framing, and visual presentation. The audience response part mainly examines video click rates, the number of comments, and the content of the comments.

II. Theoretical Discussions

1. online videos

The advent of the internet has, to some extent, deconstructed the original framework of news production. In theory, the internet age has disrupted the monopoly of news production by a few institutions, allowing everyone to upload and share information. The changing communication environment has impacted the media framework constructed by professional news organizations. Users are no longer limited to traditional media for their understanding of the objective environment but are instead attempting to learn about surrounding news topics through new media such as Weibo, WeChat, and online videos (Jing, 2013: 55).

Online videos enable everyone to upload content, which means that public understanding of climate change issues is no longer confined to the media framework constructed by traditional media. However, when it comes to climate change, it differs from less knowledge-intensive topics such as entertainment and leisure. Climate change involves more complex scientific knowledge and is closely linked to international politics and economics. This implies that online videos about climate change may not have as much user-generated content as videos related to entertainment. The dissemination of climate change issues urgently requires the involvement of the scientific community and the government. Therefore, whether online videos as a window for the public to understand climate change have been fully utilized by the scientific community and the government is one of the focal points of this study (Zhang, 2018: 11-12).

2. climate communication

As climate change gradually becomes an important global issue, the media's attention to climate change has been increasing. Correspondingly, experts have conducted more research on media coverage of climate change and its impact on public understanding and engagement. However, compared to the extensive international research, some scholars believe that "China's climate change scientific research rarely focuses on climate communication" and "specialized

climate communication research in China has only just begun" (Zheng, 2011: 56-62).

Current research on climate communication in the Chinese academic community is mostly focused on theoretical discussions. The research methods are predominantly historical analysis and logical deduction. For example, Zheng (2013: 5-14) published works on the rise and significance of climate communication, its development trajectory, and the functions and strategies of news media in climate communication.

Lee (2013: 67-83) summarized data from sources, channels, and content to outline the characteristics and tendencies of the Chinese public in accessing climate change information. However, overall, empirical research on climate communication in China remains limited, insufficient to comprehensively depict the current state of climate communication in the country. Moreover, practical insights that could contribute constructively to climate communication in China are also lacking.

Although the Chinese public shows a high level of acceptance of the scientific conclusions regarding climate change, a survey by the Pew Research Center in 2015 revealed that China and the United States, two major carbon-emitting countries, are among the least sensitive to climate change. Only 15% of Chinese and 30% of Americans express concerns about the potential harm of climate change to themselves, significantly lower than the global average (40%) (Bruce Stokes, 2015). Moreover, among various environmental risks, climate change is particularly unique in that "it does not produce any immediate observable events that attract public attention, and most people have not personally experienced similar situations that would allow them to truly understand the real existence and urgency of climate change-related risks, as opposed to speculation and imagination" (Elke U, 2006: 103-120). In this context, accurate communication of climate change, especially the progress in climate science research, becomes critically important.

III. The Importance of Climate Change Issue

1. The issue of climate change has received high attention worldwide

According to the latest Fifth Assessment Report released by the Intergovernmental Panel on Climate Change (IPCC), human activities have been observed to have clear impacts on the climate system across all continents, and these impacts are increasing. If left unchecked, they will have severe, widespread, and irreversible effects on human and ecological systems (Yan, 2017: 10).

Since the Industrial Revolution, excessive greenhouse gas emissions from human activities have caused global temperatures to rise beyond natural variations. This phenomenon is currently accelerating. In 1979, the first World Climate Conference was held in Geneva, Switzerland, marking climate change as a globally significant issue. By the 1990s, countries worldwide began to increasingly recognize the importance of addressing climate change, with many joining negotiations on global climate actions. On November 14, 2016, the Paris Agreement entered into force as the second legally binding climate agreement following the Kyoto Protocol, demonstrating once again the international community's consensus and determination to jointly govern climate change (Zhang, 2018: 1).

Domestic crisis management manuals are established based on the types of disasters and assign roles for each stage of

crisis alert according to the respective duties of different agencies. They only specify the general roles focused on the main functions of each agency in terms of crisis management activities at each stage of crisis management (Won and Lee, 2021: 15).

2. The important role of online videos in climate communication

Climate governance requires not only top-level design but also public understanding, support, and action. Climate communication, as an indispensable part of climate governance, serves not only as a means to guide public understanding and engagement in addressing climate change but also as a crucial tool to facilitate the smooth implementation of climate governance measures by governments. Mass media communication profoundly influences human attitudes, behaviors, and societal changes. Media presentations on climate change issues similarly affect public awareness and willingness to participate in climate change mitigation practices. Therefore, in-depth research into the media portrayal of climate communication in China and its impact on the public is crucial for further promoting public understanding and engagement in climate change mitigation efforts.

Online video platforms such as YouTube and Douyin not only provide channels for content dis semination but also foster interaction among viewers through features like comments, shares, and likes, facilitating the spread of information. Viewers can express their opinions and actions throug h comments and shares, thereby generating broader social influence.

With the development of recommendation algorithms and personalized recommendation technolo gies, online video platforms can tailor climate change content based on viewers' browsing history and interests. This customized dissemination enables more precise targeting of the intended audien ce, enhancing information acceptance and influence.

Online videos are not constrained by time or space, enabling global dissemination and impact a cross borders. Furthermore, through cross-sector collaborations, such as partnerships between envir onmental organizations and prominent video creators, climate change issues can be integrated with popular culture and entertainment elements to attract a wider audience.

Online video platforms support real-time content updates and immediate feedback, allowing timely reporting of climate change events, new discoveries, and public responses to related information. This continuous flow of information helps maintain ongoing viewer engagement and participation (Zeng, 2013: 8-12).

IV. Improving the dissemination of climate change issues in online videos

Based on the analysis of the characteristics and issues of climate change issue dissemination in online videos, and considering the current situation of online video platforms, this article proposes improvement suggestions from two aspects: operation, content, and visual representation.

In the Web 2.0 era, the dissemination of online information is no longer solely controlled by a

few website editors employed by platforms. Every internet user can upload their own or remade works to online video sharing sites, effectively becoming a distributor of online videos. This democratization of content distribution complicates the oversight process for online video platforms. To mitigate the spread of misinformation, these platforms should enhance website construction, bolster training for content oversight personnel, and strive to ensure the scientific accuracy and reliability of information. However, given the vast and diverse nature of online information, relying solely on staff oversight is impractical. Therefore, website operators can implement user reporting features to harness the power of the community for oversight. Additionally, user engagement metrics such as video views can aid in content evaluation and verification (Zhang, 2018: 36).

One of the current challenges in the dissemination of online videos related to climate change issues is the lack of audience attention and interaction. This stems partly from climate change not being the most pressing environmental concern among the Chinese public, despite its widespread recognition. Moreover, climate change-related videos often lack effective strategies to attract viewer traffic. Enhancing exposure is crucial to improving this situation. Video site operators should prioritize prominent placement and increased promotion for climate change-related videos within relevant sections. Despite typically lower click-through rates compared to entertainment or news videos, climate change is a critically important topic that aligns with the news value criterion of significance and warrants public understanding and engagement. Increasing the visibility of these videos benefits both the operators of video platforms and the public by fostering scientific literacy and promoting awareness and action on climate change through interactive features in online media.

1. Focus on balancing scientific accuracy and enhancing the entertainment value of video content.

In the future, when disseminating climate change issues through online videos, whether by traditional media institutions, emerging self-media, or individual users, it is important to consider producing or translating more content related to adaptation and mitigation strategies for climate change. This should move beyond superficial promotion of carbon reduction and delve deeper into analyzing and discussing various practical low-carbon actions applicable to the public. Topics could include finding a balance between low-carbon environmental protection and efficiency in work and daily life.

Regarding geographical focus, media should pay attention to domestic issues and seek out news related to climate change in China and its surrounding regions. It's crucial to emphasize that shifting attention domestically does not imply merely highlighting the impacts of climate change on China and its neighboring areas, or overstating connections where they may not exist. Instead, it involves exploring actions taken by Chinese individuals and institutions in response to climate change challenges.

Furthermore, government departments and research institutions should increase the dissemination of the

latest domestic climate change information to provide reliable sources for content creators of online videos (Zhang, 2018: 38-39).

2. Reject stereotypical and monotonous video presentations in favor of diverse and varied storytelling techniques.

In presenting climate change issues through visual media, online videos should move away fro m stereotypical and monotonous visual symbols and embrace a more diverse range of storytelling techniques to visualize the often invisible aspects of climate change. In this regard, charts and co mputer graphics are effective solutions. Charts can accurately depict subtle aspects of climate cha nge through numbers, line graphs, and comparative visuals, illustrating changes over time clearly. Computer graphics can simulate future consequences of climate change and visualize human effors to mitigate it, instilling greater confidence in the public's ability to address these challenges.

While textual narratives often dominate in presenting abstract scientific concepts or imperceptibl e phenomena, with visuals taking a secondary role, educational animations serve as excellent exa mples of visualizing climate change topics. They convey climate change issues rigorously and sci entifically while moving away from the use of superficial visual symbols often seen in television news broadcasts. Additionally, visual symbols can go beyond mere representation of reality; they can effectively convey information through metaphors and associations. For instance, slow-motion footage of children playing on grass can metaphorically suggest the need to protect the environme nt for the well-being of future generations(zeng, 2013: 20).

Therefore, in addressing climate change issues, communicators can leverage imagination to empl oy richer visual narratives effectively.

V. Conclusions

Research has found that the dissemination of climate change issues in Chinese online videos emphasizes the existence and threats of climate change with high consistency. This has created a favorable public opinion envi ronment for China's promotion of green development, construction of a good ecological environment, scientific governance, and mitigation of the negative impacts of climate change. However, there are also many areas that need improvement, with the lack of scientific rigor being the main problem in the current dissemination of cl imate change topics in Chinese online videos. This corroborates an earlier study which found, "the Chinese pu blic has only a vague understanding of what climate change really is, and lacks understanding of the causes a nd scientific mechanisms of climate change" (Wang , 2016: 719). Relying solely on simple reporting of pheno mena and sensationalizing the hazards of climate change is far from sufficient to persuade the public. Without accurate communication of climate change-related scientific knowledge and meaningful discussion and interactio n, merely providing "labeling" reports risks not helping the public clearly understand the truth of climate chan

ge issues and may even leave room for conspiracy theorists to exploit.

In terms of visual representation of climate change issues, online videos should strive to discard stereotypical and monotonous visual symbols and instead utilize more diverse expressive techniques to visualize climate change issues that are difficult to perceive. In this regard, charts and computer graphics are excellent solutions. Charts can accurately depict subtle aspects of climate change issues through numbers, line graphs, etc., and clearly show changes over time through comparisons of multiple charts. Computer graphics can simulate images to visually represent the potential consequences of climate change in the future and visualize the achievements of human efforts to address climate change, thereby instilling greater confidence in the public's ability to tackleclimate change issues. Although textual narratives dominate when presenting abstract scientific concepts or unobservable phenomena, with visuals playing a secondary role, educational animations can be seen as excellent examples of visualizing climate change topics.

They can present climate change issues in a rigorous and scientific manner while freeing video content from the constraints of using a few special visual symbols as mere accompaniments to voiceovers in TV news bro adcasts. Furthermore, the function of visual symbols is not necessarily to reproduce reality; they can often con vey information through metaphors and associations. For example, scenes of children running on grass in slow motion can metaphorically convey the message that humans should protect the environment for the sake of fut ure generations' happiness. Therefore, when presenting climate change issues, communicators can unleash their imagination and use richer visual imagery to disseminate climate change topics.

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