Research on the Framework Theory of News Reporting by Western Mainstream Media on the Beijing Winter Olympics

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Abstract

This paper conducts in-depth textual analysis and framework analysis of the data news reports by Western mainstream media on the Beijing Winter Olympics based on the background of media convergence. The research finds that Western media reports exhibit overall characteristics of objectivity, political leanings, changing with the time, and diverse topics. Furthermore, this paper proposes strategies for how China can enhance its national image through external communication, including strengthening media promotion, leveraging social media, fostering international cooperation, and organizing unique cultural events. Through comprehensive and detailed analysis, this paper aims to provide valuable references and insights for enhancing China's image and influence on the international stage.

Keywords

Media Convergence, Beijing Winter Olympics, Western Mainstream Media, Data News Reporting, External Communication Strategies

1. Introduction

With the rapid development of technology and the advancement of globalization, media convergence has become an important trend in contemporary news communication. In this context, major international events such as the Olympics are not only a grand gatherings of sports competitions, but also significant platforms for countries to showcase their own image and spread their values. As one of the most anticipated international sporting events in recent years, the Beijing Winter Olympics has garnered widespread attention from the global media. This paper aims to analyze the data news reporting on the Beijing Winter Olympics by Western mainstream media, reveal its reporting characteristics and tendencies, and explore how China can enhance its national image through external communication.

1.1 Problem Statement

The Olympic Games, as an international sports event, often carry rich political, economic, and cultural connotations in its coverage. In the context of media convergence, data news reporting, with its objectivity, accuracy, and in-depth analysis, has become an important form of coverage by Western mainstream media on the Olympics. However, due to the differences between China and the West in politics, culture, Western media's coverage of China often has certain biases and misunderstandings. Therefore, this paper poses the following questions: What are the characteristics of Western mainstream media's data news reporting on the Beijing Winter Olympics in the context of media convergence? How do these characteristics affect China's

image on the international stage? How can China enhance its image through external communication strategies?

1.2   Literature Review

Domestic and foreign scholars have conducted extensive research in the fields of media convergence, data news reporting, and national image communication. The research on media convergence mainly focuses on the transformation of news communication methods and the reconstruction of media ecology. Studies on data news reporting concentrate on its characteristics, influence, and similarities and differences compared to traditional news reporting. Research on national image communication focuses on how to enhance national image through media publicity, cultural exchanges, and other means. However, according to the quantitative visualized analysis of CNKI (China National Knowledge Infrastructure), it is evident that research combining media convergence, data news reporting, and national image communication is relatively scarce. Therefore, this paper attempts to explore and innovate in this field.

Figure 1: Distribution of major topics
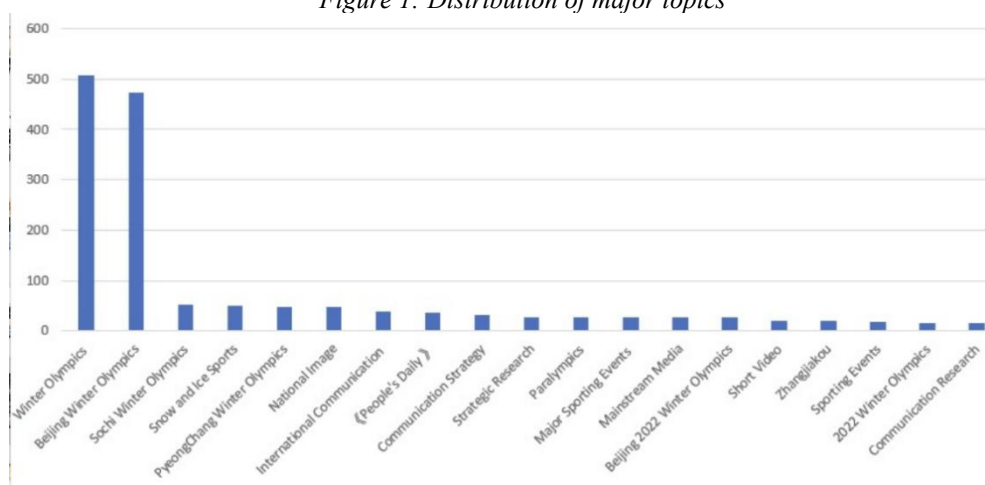
Source: The author (Tingting He) collected data and made drawings by herself, and the data came from the CNKI

Figure 2:Distribution of sub-themesn
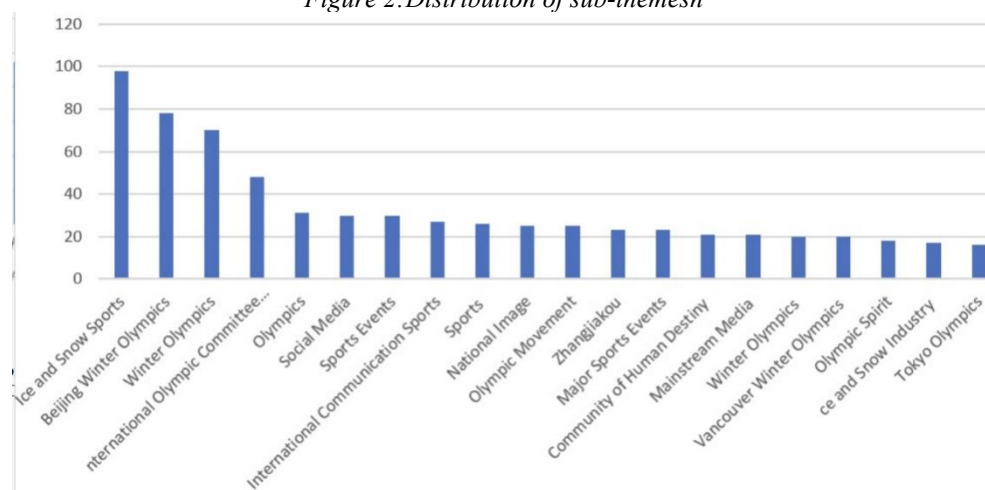
Source: The author (Tingting He) collected data and made drawings by herself, and the data came from the CNKI

1.3   Research Design

Taking into account the credibility and influence of Western media, this study selected four well-known mainstream media outlets from the United Kingdom and the United States of America, including The Guardian, The Times, The New York Times, and The Washington Post. From their coverage of the opening ceremony, events, and closing ceremony of the Beijing Winter Olympics, 5 articles were randomly sampled from each, resulting in a total of 20 news reports.

The 20 news reports were compiled into a corpus, and "uutool" software was used to conduct English word frequency statistics. Meaningless words such as "too", "to" and "the" were excluded, and meaningful nouns, adjectives, adverbs,etc. were sorted by frequency to generate a high-frequency word frequency table. Finally, a word cloud map was created using the software.

At the same time, high-frequency words can be organized into frameworks, and Western mainstream media reports can be divided into three major reporting focus frameworks: events, politics, and society according to the frequency of the words and the vocabulary attributes. Meanwhile, based on China's position, the relevant reports can be qualitatively analyzed based on emotional characteristics, and the reports can be divided into three categories: positive, negative, and neutral from a tendency perspective, and then analyzed one by one, and then explore how China can improve its national image through external communication.

2. Theoretical Overview and Column Introduction of Data Journalism

2.1 Theoretical overview

With the rapid development of information technology and the advent of the big data era, data journalism, as a new type of news reporting method, has gradually received extensive attention and importance from the industry. Data journalism has not only changed the production method of traditional news, but also improved the quality and efficiency of news reporting. This paper will provide an overview of the theory of data journalism, exploring its definition, characteristics, functions, and its application in production.

In academia, the definition of data journalism is diverse and there is no standard answer. Based on multiple inquiries, we have summarized the definition of "data journalism": it is based on data and combined with the sensitivity and persuasive narrative ability of traditional news. In form, visualized data takes precedence, with text as a supplement. In practice, journalists conduct techniques such as statistics, analysis, and mining to transform complex and abstract data into intuitive and understandable news formats through the use of big data, data mining, data visualization, etc., to convey information to the public. The purpose of data journalism is to reveal the stories behind the data through data analysis and visualization, providing the public with a more in-depth and comprehensive news perspective.

2.2 Column Introduction

The Times is a long-standing and highly influential daily newspaper in the United Kingdom, founded in 1785 and acclaimed as the "world's largest newspaper." The newspaper is widely respected for its high-quality news reporting, in-depth analysis, and commentary. Its coverage spans various fields such as politics, economy, society, and technology. It particularly holds significant authority and influence in the areas of politics and international affairs. In the field of data journalism, it has also made significant explorations and practices. The newspaper employs methods such as data visualization and interactive charts to present complex data in an intuitive and understandable manner to readers. For example, when reporting major political and economic events, The Times uses data journalism to analyze the data support behind the events, helping readers better understand the nature and impact of the events. With its objective, fair, and independent stance, The Times has won the trust of readers worldwide.

The Guardian is a well-known newspaper in the United Kingdom. It was founded in 1821 and is one of the earliest daily newspapers in the country. It is renowned for its independent, progressive viewpoints and in-depth analysis of social issues. It also has a unique style in the field of data journalism. The newspaper takes on the responsibility of addressing social issues and promoting social change. Through thorough analysis and commentary, it reveals the root causes of social problems, encourages public reflection, and emphasizes in-depth data mining and analysis. Through data journalism, it uncovers the origins and trends of social issues. Additionally, The Guardian values interaction with its readers, involving them in the production and interpretation of data journalism through online surveys, data visualization, and other means.

The New York Times is a renowned newspaper in the United States of America, founded in 1841, famous for its high-quality news reporting and in-depth analysis and commentary. It has also shown outstanding performance in the field of data journalism. The newspaper transforms complex data into easily understandable information through data visualization, data interpretation and other means, helping readers better understand the developments in various fields such as politics, economy, and society. Its political reporting is particularly exceptional, with deep analysis and unique insights into domestic and international

political events. The readership of the newspaper mainly includes political decision-makers, business leaders, intellectuals, and the general public interested in international affairs.

The Washington Post is a historically significant and influential newspaper in the United States, founded in 1877. It is renowned worldwide for its high-quality news reporting, rigorous investigative research, and in-depth commentary and analysis. In the field of data journalism, the newspaper focuses on the authority and accuracy of data, using data journalism to reveal the truth and trends in areas such as politics and the economy. Its political reporting is exceptional, earning widespread acclaim for its coverage of major political events like the Watergate scandal. Additionally, the newspaper values in-depth investigative reporting and commentary analysis, emphasizing data visualization through charts, maps, and other means to provide readers with a more intuitive understanding of data information, revealing the truth behind many social issues and guiding public reflection. With its objective, fair, and independent stance, The Washington Post has gained the trust and respect of readers worldwide.

These four major newspapers each have their own characteristics, but they all share high-quality news reporting and in-depth analytical commentary as common features. With independent, objective and fair stance, they have won the respect and trust of readers around the world and have become an important force in the world's press. These four mainstream newspapers all have unique practices and features in the field of data journalism. They use methods such as data visualization, interactive charts, etc., to present complex data information to readers in a visual and understandable manner, helping readers better understand and analyze the dynamic developments in various fields such as politics, economy, and society.

Additionally, these newspapers also emphasize interaction with readers, allowing readers to participate in the production and interpretation process of data journalism through online surveys, data interpretation, etc., further enhancing the influence and readability of the newspaper.

3.   Text analysis of western media's news reports on Beijing Winter Olympics data

3.1   Word frequency analysis

Taking into account the credibility and influence of Western media, this study selected four well-known mainstream English and American media outlets - The Guardian, The Times, The New York Times, and The Washington Post. From their relevant news coverage of the opening ceremony, process, and closing ceremony of the Beijing Winter Olympics, five articles were randomly sampled from each, making a total of 20 news reports.

The 20 news reports were compiled into a corpus, and then "uutool" software was used to conduct English word frequency statistics. Meaningless words such as "too", "to" and "the" were excluded, and meaningful nouns, adjectives, adverbs, etc., were sorted by frequency to generate a table of the top 10 high-frequency words. Finally, a word cloud was created using the "Micro Word Cloud" software.

Table 1: Word frequency statistics Top 10

Ranking	Words	Frequency
1	Medals	52
2	Golds	42
3	Competition	35
4	Event	32
5	Women	27
6	Pressure	25
7	Skis	24
8	Country	23
9	Skating	21
10	Rights	19

Source: The author (Xinyue Xiang) collected data and made drawings by herself, and the data came from the official websites of the four major media.

Figure 3: Word cloud

Source: Author :Xinyue Xiang

Based on the simple sorting of word frequency statistics, it can be roughly concluded that the coverage of the Beijing Winter Olympics by mainstream Western media focuses on three main categories: sports events themselves, politics, and society.

Words such as "Medals", "Golds", "Competition", "Event", "Skis" and "Skating" represent the concretization of sports competitions, with "Skis" and "Skating" carrying the color of ice and snow sports. Words like "Country" and "Rights" have modern political significance, with "Country" representing national characteristics and "Rights" carrying the meaning of rights. Words related to gender features and psychological factors such as "Women" and "Pressure" have social significance.

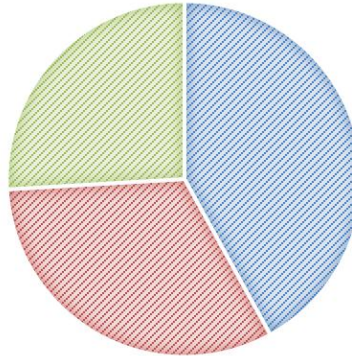*Figure 4: Word frequency distribution*
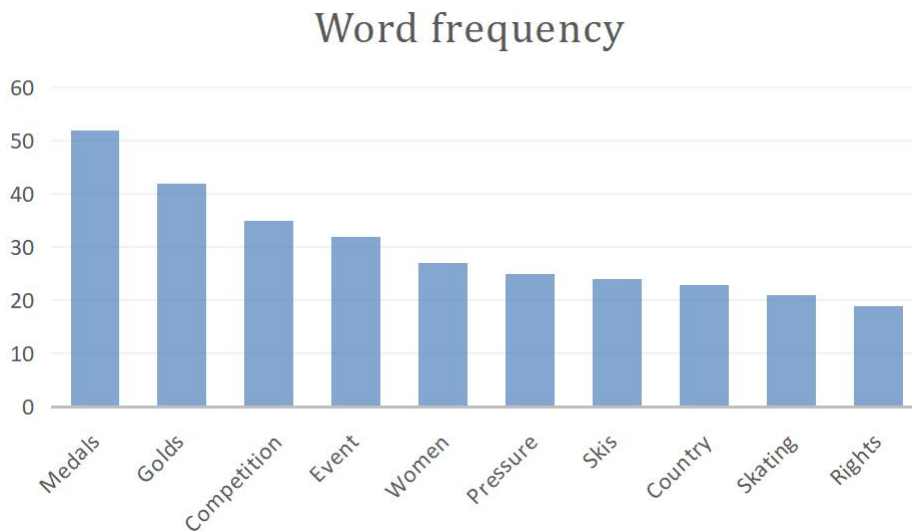
Source: Author :Xinyue Xiang

Figure 5: Word frequency distribution

WORD FREQUENCY RATIO

■ Game word frequency ■ Social word frequency ■ Political word frequency

Source: Author :Xinyue Xiang

Among the randomly sampled 20 articles, the majority of high-frequency words are related to Olympic events, with some words reflecting the characteristics of ice and snow sports. Social and political terms have relatively lower word frequencies, but there is no significant disparity in overall word frequencies. This indicates that there is a relatively higher proportion of content related to society and politics, which is a focus of coverage in Western mainstream media.

3.2   Text Analysis Pros and Cons

Word frequency analysis is a common statistical method in data analysis, which can provide an objective vocabulary frequency statistics and descriptive analysis of news. Western mainstream media serves as the mouthpiece of Western governments and parties, and the words they use reflect the underlying power dynamics and value orientations. Through word frequency analysis, one can objectively identify the aspects that Western mainstream media focuses on. By accumulating habitual vocabulary through analysis, one can to some extent dissect the development trends hidden behind the text regarding Western politics or the public opinion orientation behind events or phenomena.

The adoption of word frequency statistical methods is based on mechanized retrieval, making it difficult to delve into the narrative logic and constructed meanings of news within the context. Therefore, it may lack depth and comprehensiveness, necessitating a more in-depth framework analysis. Through framework theory, one can explore the reporting characteristics of Western mainstream media on the Beijing Winter Olympics event and the audience characteristics of Western audiences. With the development of technology, China's strength has significantly increased, and as a crucial player in the multipolar world, its "self-representation" ability continues to improve. However, the "representation by others" led by Western mainstream media on a global scale still remains in an era guided by political frameworks. Under the world system with Western values at its core, China's national image shaping encounters obstacles and falls into a dilemma.

By sampling, collecting, and analyzing the reports on the Beijing Winter Olympics from four well-known Western mainstream media outlets, namely The Guardian, The Times, The New York Times, and The Washington Post, and organizing them into a unified corpus, this study focuses more on the common characteristics of the coverage of the Beijing Winter Olympics by these four major media outlets.

The study can organize the high-frequency words into a framework and divide the Western mainstream media reports into three major focus areas: sports, politics, and society, based on the frequency and semantic properties of the words. At the same time, relying on the subject position of China, the study qualitatively categorizes the relevant reports based on emotional characteristics, dividing the coverage into positive, negative, and neutral orientations (positive coverage, negative coverage, and neutral coverage) from a biased perspective.

4.   Framework analysis of western media's news reports on Beijing Winter Olympics data

Hosting major international events provides an excellent opportunity to showcase a country's image, and the shaping of national image is a combination of "self-shaping" and "other shaping"(Cai, 2023). With the development of technology, China's strength has significantly increased, and as a crucial player in the multipolar world, its "self-shaping" ability continues to improve. However, the "other shaping" led by Western mainstream media on a global scale still remains in an era guided by political frameworks. Under the world system with Western values at its core, China's national image shaping encounters obstacles and falls into a dilemma.

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Table 2: Framework analysis of western media's news reports on Beijing Winter Olympics data

Frame theory	Coverage ratio	Tendentious orientation	Content focus
Event frame	34%	Neutral (neutral reporting)	The event itself (objective facts such as medal count, venues, etc.)
Political framework	26%	Negative (Negative press)	Political and human rights issues of the Chinese government (e.g., COVID-19 policy)
Social framework	21%	Enthusiasm (Positive coverage)	Female consciousness (such as the focus of female images - the beauty of women's movement)

Source: The author (Xinyue Xiang) collected data and made drawings by herself, and the data came from the official websites of the four major media.

4.1   The event framework tends to be neutral

Due to the nature of sports events, mainstream media in news reporting all tend to focus more on the events. However, unlike Chinese mainstream media that focus on reporting participating athletes and competition venue facilities, Western mainstream media emphasize the coverage of the event itself, such as real-time updates on medal counts, total number of gold medals for each country, competition and rivalry, and attention to ice skating and skiing sports.

Western media's coverage of the events tends to lean more towards objective descriptions of the facts and phenomena of the Beijing Winter Olympics, thus leaning towards neutrality.

4.2   Inclination towards a negative political framework

Due to the COVID-19 pandemic in 2022, Western mainstream media not only focused on the games but also paid great attention to political and human rights issues concerning the Chinese government.

Prior to the opening ceremony of the Beijing Winter Olympics, the term "Beijing Winter Olympics faced strong boycott from Western countries" appeared as the top trend on China's Sina Weibo. Western media, primarily from the UK and the US, openly boycotted the Beijing Winter Olympics (Strina & Göbbel, 2023). By focusing on and sensationalizing the COVID-19 situation, they amplified public dissatisfaction based on social experiences with the host country, constructing a stigmatization phenomenon against China and causing some damage to China's international image.

Western mainstream media's stigmatization of China follows a logic of "utilizing negative events related to China (such as the perception of disregard for human rights in epidemic prevention policies—innocent victims, such as foreign athletes testing positive for COVID-19 in China and being forcibly quarantined—government inaction, etc.) — disclosure by relevant sources (such as specific information revealed by relatives, friends, or teammates of certain athletes)—recommendations from authoritative figures (such as expert opinions or suggestions from foreign politicians) — public discussions — formation of public

opinion"(Yang, 2023)in order to develop events or phenomena towards a direction favorable to the prevailing public sentiment and achieve stigmatization.

In 2022, with Russia and Ukraine in a tense situation, Western mainstream media dedicated considerable coverage to the "doping scandal" involving Russian figure skater Valieva during the Beijing Winter Olympics. This coverage directly pointed fingers at the Russian government, following the aforementioned reporting logic, aiming to develop public opinion around this event as a crime committed by the Russian government, framing the Russian government within the narrative of "forcing athletes to use performance-enhancing drugs in competitive events" and ultimately stigmatizing the Russian government.

4.3   Tendency towards a Positive Social Framework

Through the compilation of word frequency statistics, the coverage and attention to "women" in this Winter Olympics have significantly increased. Moreover, Western mainstream media has placed more emphasis on the social aspect of shaping the image of women, highlighting the beauty of female athletes (Jia & Zhang, 2023).Such as the charismatic personalities and sporting spirit of female athletes. With the victory of Gu Ailing, the heat surrounding "women's rights" remains high. Both Western and Chinese media have devoted considerable coverage to depicting and emphasizing Gu Ailing's achievements. Unlike the Chinese focus on athletes' performance and education, the Western media places more emphasis on shaping female opinion leaders.

From this, one can see the expression and prospects of female consciousness on a global scale.

5.   Characteristics of Data Journalism Coverage by Western Mainstream Media at the Beijing Winter Olympics in the Context of Media Convergence

5.1   Objectivity

Western mainstream media's coverage of the Beijing Winter Olympics events themselves accounts for approximately 34% of the total coverage. This coverage primarily focuses on objective descriptions of medal counts, gold medal numbers, venues, and other event-related phenomena, with less emphasis on athletes' personal stories and their spirits.

5.2   Political Bias

Western mainstream media shows a higher level of attention to political issues, following a logical framework of "negative events that can be exploited by the country — innocent audience affected — government response — disclosures from relevant sources — recommendations from authoritative figures — public discussions — formation of public opinion." This process leads to the politicization and entrenchment of some issues related to politics (Boykoff, 2022).

For example, the "doping incident" involving Russian figure skaters follows a sequence: a negative event that can be exploited — innocent athletes forced to use doping — government's collective involvement in doping—disclosures from individuals involved in the doping incident (such as insiders revealing the tradition of forced doping) — authoritative figures from the International Skating Union making judgments — widespread international discussions—formation of public opinion regarding the doping incident involving Russian figure skaters — cancellation of the skaters' results and revocation of the gold medal won by the Russian figure skating team in the team event.

5.3   Subject to Change with the Times

Media reports need to pursue topics with newsworthiness and timeliness. Therefore, they generally exhibit characteristics of being phase-specific and subject to change with the times.

Before the opening ceremony of the Beijing Winter Olympics, the world was in the midst of the COVID-19 pandemic. As a result, mainstream media coverage focused on Beijing's COVID-19 prevention and control measures.

During the Beijing Winter Olympics, there was a tense situation between Russia and Ukraine, leading to a focus on incidents involving Russian athletes.

5.4   Diversity of Issues

By summarizing the frequency of words used, Western mainstream media coverage of the Beijing Winter Olympics encompasses a diverse range of topics. These include the events themselves, medals, venues, COVID-19, athletes, and countries. The portrayal of China's national image is more evident in the multifaceted social construction that stems from the sports events themselves. This approach provides a more comprehensive and diverse perspective.

6.   Strategies for China to enhance its national image through external communication

With the rapid development of sports globalization, the Olympics, as an international sports event, has become an important stage for countries to showcase their own culture, technology, and economic strength.

China's active participation and outstanding performance in previous Winter Olympics have not only added luster to China's sports industry but also made important contributions to enhancing the country's image and promoting international friendship.

6.1   Strengthen media propaganda to increase international attention

By using mainstream media and international cooperative media, China comprehensively reports on news related to the Winter Olympics, showcasing the spirit of Chinese athletes and their on-field charm.

By organizing press conferences, special forums, and other activities, China strengthens interaction with foreign media and audiences, thus increasing international attention.

6.2   Utilize social media to broaden communication channels

China fully utilizes social media platforms such as Weibo, Douyin, etc., to publish content related to the Winter Olympics, attracting attention from domestic and international netizens.

By interacting with internet users, showcasing the daily lives and training situations of Chinese Winter Olympics athletes, public understanding and support for the athletes are enhanced.

6.3   Enhance cooperation with international organizations such as the International Olympic Committee

China actively maintains close cooperation with international sports organizations such as the International Olympic Committee, participates in various international sports affairs, and enhances China's influence on the international sports stage.

By interacting with international sports stars, China increases the international visibility of the Winter Olympics.

6.4   Organize unique cultural events to showcase the charm of Chinese culture.

During the Winter Olympics, China hosts various cultural events such as ice and snow culture festivals, folk culture exhibitions, etc., showcasing China's traditional culture and modern development achievements to international friends.

These activities not only enhance international understanding and friendship towards China but also help establish a positive international image for China.

In the future, China should continue to strengthen external communication efforts, innovate communication methods, expand communication channels, and make greater contributions to further enhancing the country's image and promoting the development of sports.

7.   Conclusion

Through an in-depth analysis of the news coverage of the Beijing Winter Olympics by Western mainstream media, this paper has revealed the overall characteristics and tendencies of their reports, and put forward strategies for China to enhance its national image through external communication.

Against the backdrop of media convergence, China should pay more attention to the strategic and innovative nature of external communication, and enhance its image and influence on the international stage

through strengthening media propaganda, utilizing social media, strengthening international cooperation, and organizing unique cultural events.

At the same time, China should actively address the biases and misunderstandings of Western media, and enhance international understanding and recognition of China through objective and truthful reporting and publicity.

Looking ahead, with the deepening development of media convergence and the increasing frequency of international exchanges, China's external communication will face more opportunities and challenges.

Therefore, China should continue to strengthen research and practice in external communication, constantly innovate communication methods and approaches, and make greater contributions to enhancing the national image and promoting international exchanges and cooperation.

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Conflicts of Interest
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