



A Study on Xi'an's International Image Based on the NOW Corpus

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Abstract. Internationalization represents the comprehensive embodiment of the strengths, innovation, cultural charm, urban vitality, and communicative abilities of a city. For modern urban competition, enhancing international image is one of the key directions for major cities. Therefore, studying the existing international image of a city is of great significance in formulating targeted policies. In this paper, we utilize News of Web (NOW), one of the world's largest and best online English news corpora, to conduct frequency analysis and the city's international analysis based on its concordance lines. The findings reveal several aspects of Xi'an's international image in international news reports: 1) it is the capital of Shaanxi Province in northwestern China, 2) it is a historical ancient city with a rich cultural heritage, 3) it is a thriving emerging city, and 4) it has been affected by the COVID-19 pandemic. This paper aims to provide a reference for Xi'an to create a better international image in the future.

Keywords: corpus, city's international image, Xi'an, discourse analysis

1 Introduction

According to Luque-Martínez, in both strategic city planning and city marketing, a fundamental starting point is to evaluate the image of the city itself. Knowing a city's image should serve as the basis of city planning^[1].

Reviewing previous literature on the international image of cities, there is a scarcity of research by foreign scholars on the international image of cities. Foreign scholars mostly employ methods such as questionnaire surveys or interviews with international students, like Ferreira^[2] and Eshrati^[3]. The former conducted a questionnaire survey with international respondents who had rich international travel experience, using the backdrop of the 2016 Rio Olympics while the latter interviewed forty-one international students from Kansas State University. It can be observed that these studies derive the city's international image based on the perceptions of international students, and the limited sample size restricts the generalizability of the research. This paper utilizes the News of Web online news corpus for research, which not only provides a large amount of corpus data but also partially compensates for the lack of objectivity in discourse analysis.

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Among domestic scholars, the majority of studies are concentrated in the fields of news and media (Li and Zhang, 2022)^[4], followed by Chinese politics and international politics (Liu and Xie, 2022)^[5]. Studies on the international image of cities from the perspective of discourse analysis are even fewer, which mainly focus on the translation of promotion texts (Yang, 2022)^[6].

Research on the international image of cities mainly centers on cities like Haikou^[7], Shanghai^[8], Nanjing^[9], etc., with only one scholar analyzing the international image construction of Xi'an from English websites^[10]. As a culturally ancient city, Xi'an holds an important position in Chinese history, and further research on its international image is still needed.

This paper utilizes the News of Web online news corpus to study Xi'an's international image, which not only provides a large amount of corpus data but also partially compensates for the lack of objectivity in discourse analysis.

2 Research Design

2.1 Research Object and Problems

NOW is one of the largest and best online English news corpora in the world. It collects news data from mainstream media outlets in 20 countries and regions, covering global politics, economy, technology, education, and culture across all social levels since 2010. The corpus continuously expands with an average monthly increase of 1.4 to 1.6 million English news texts. The research object of this study is the 7,114 concordance lines from a search using the keyword "Xi'an" in the NOW corpus, whose timeframe spans from 2010 to 2023.

This study primarily focuses on two research questions: 1) What are the characteristics of the distribution of foreign media discourse about Xi'an? 2) How is the image of Xi'an constructed by foreign media?

2.2 Research Approach

Based on the NOW News Corpus, this study aims to mitigate the subjectivity inherent in discourse analysis and provide an objective analysis of the research subject while addressing the research questions as much as possible.

Firstly, a search will be conducted in the NOW corpus using the keyword "Xi'an" to perform frequency and regional analysis. Secondly, the keyword "Xi'an" will be entered in the "collocates" search field of the NOW News Corpus, with a range set to include collocates within a span of four words on either side and selecting the top 50 significant collocates with a Mutual Information Score exceeding 3. The Mutual Information Score is a statistical metric used to measure the interdependence between two words in natural language processing and information retrieval. It can reflect the extent to which one word influences the frequency of occurrence of another word, or how the

frequency of occurrence of a word in a corpus provides information about the probability of occurrence of another word. Finally, an analysis of Xi'an's international image will be conducted using the concordance lines of these collocates in the second step.

3 Results and Discussion

3.1 Frequency Analysis of "Xi'an"

Frequency analysis reflects the media's attention, which is closely related to the keyword's level of interest. A search using the keyword "Xi'an" in the "Chart" search box of the NOW corpus provides a frequency list of the keyword in English news reports from foreign media. The x-axis is set as the year to create a line graph. The results are shown in Figure 1.

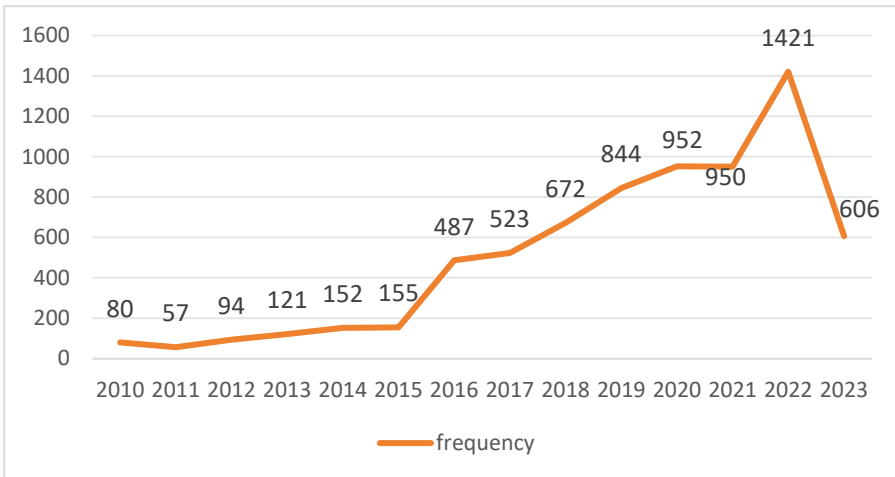


Fig. 1. Distribution of "Xi'an" Frequency by Year in the NOW News Corpus (2010-2023)

From Figure 1, it can be observed that the frequency shows a downward trend in three periods: 2010-2011, 2020-2021, and 2022-2023. The decline in 2022-2023 is particularly rapid, with a decrease of more than half. This decline is largely due to the sharp increase in 2021-2022, and there was also a rapid growth process in 2015-2016.

According to the search results, the frequency of the year 2015 was 155 occurrences, with a frequency rate of 0.3 per million words. Although the frequency appears to have increased to 487 occurrences in 2016, the frequency rate per million words showed only a slight increase to 0.32. This phenomenon may be attributed to the growth in the volume and length of English reports from other countries, indicating an increase in the overall corpus size.

In contrast, the frequency peaked in 2022 with 1421 occurrences, and the frequency rate per million words was 0.55. After removing duplicate entries, there were a total of 767 reports in 2022, whereas in 2021, the frequency rate per million words was only

0.39, with 466 reports after eliminating duplicates. This increase can be primarily attributed to the COVID-19 pandemic in 2022, and many of these mentions were negative reports, which are detrimental to establishing a positive international image for Xi'an.

The frequency search results for "Xi'an" in the NOW News Corpus, presented by country and region, are shown in Figure 2. From Figure 2, it can be observed that the country with the highest overall frequency count is the United States, followed by Singapore, the United Kingdom, India, and Hong Kong. This pattern is related to the varying volume of reports from different countries and regions. In terms of frequency rate per million words, Hong Kong and Singapore have the highest rates, followed by Malaysia, Pakistan, and the Philippines. However, the rates in India and the United States are relatively low, indicating suboptimal exposure. Therefore, there is currently a significant regional disparity in the international dissemination of Xi'an's city image, which is still unfavorable for comprehensive global image promotion.

Frequency by country		(Return to frequency by year)		
SECTION	FREQ	SIZE (M)	PER MIL	CLICK FOR CONTEXT (SEE ALL)
United States	2089	7,267.3	0.29	
Canada	367	2,228.7	0.16	
Great Britain	590	2,573.3	0.23	
Ireland	358	1,255.9	0.29	
Australia	329	1,387.0	0.24	
New Zealand	202	680.3	0.30	
India	439	2,017.3	0.22	
Sri Lanka	22	142.8	0.15	
Pakistan	207	408.7	0.51	
Bangladesh	44	100.3	0.44	
Malaysia	206	398.0	0.52	
Singapore	1056	642.6	1.64	
Philippines	262	514.9	0.51	
Hong Kong	428	90.9	4.71	
South Africa	165	832.5	0.20	
Nigeria	105	955.3	0.11	
Ghana	50	161.7	0.31	
Kenya	94	291.5	0.32	
Tanzania	5	38.9	0.13	
Jamaica	1	59.4	0.02	

Fig. 2. Distribution of "Xi'an" Frequency by Country and Region in the NOW News Corpus (2010-2023)

3.2 International Image Analysis Based on Concordance Lines

This paper identifies and categorizes the top 50 significant collocates and employs the concordance lines of these collocates to understand how Xi'an is portrayed in foreign English media. The international image of Xi'an can be classified into the following categories:

1. "Capital city of Shaanxi Province in Northwestern China":

Foreign media often highlight Xi'an's geographical location when introducing the city. Expressions such as "the central Chinese city of Xi'an," "the northwestern city of

Xi'an," or "Xi'an, the capital of Northwest China's Shaanxi Province" were frequently observed in the concordance lines of this category.

2. "City with a rich historical heritage as an ancient city":

Foreign media coverage emphasized Xi'an's abundance of historical relics, its role as the starting point of the ancient Silk Road, and its popularity as a tourist destination. For example, the concordance lines often mentioned Xi'an as "the historical starting point of the ancient Silk Road". The Terracotta Warriors were highlighted as a prominent attraction, with media coverage referring to Xi'an as "the birthplace of Chinese civilization" and "home to the famed Terracotta Warriors and Ancient City Wall". Xi'an's museums, such as the Terracotta Warriors Museum, the Franklin Institute, and so on in Xi'an, were also mentioned as notable cultural assets.

3. "Thrive as a new first-tier city":

Xi'an's development as a new first-tier city was often compared to cities like Shenzhen, Hangzhou, Nanjing, Chongqing, Wuhan, etc.. Foreign media highlighted Xi'an's strong growth momentum and promising prospects. Numerous companies, such as Xi'an Saina Biological Technology Co., Ltd. (China), and Xi'an KOSUN Machinery Co. Ltd., were attracted to Xi'an, which possesses a comprehensive industrial chain covering industries like chips and automobiles. Foreign media reported on companies such as Nio, BYD, and Samsung, mentioning Xi'an as the location for events and production facilities. Furthermore, international conferences are also held in Xi'an like the "China-Central Asia Summit", which has received coverage from media outlets in countries like the United States, India, Pakistan, and Australia.

4. "City impacted by the pandemic" image:

Overall, Xi'an gained increased exposure during the pandemic. Through examining the concordance lines, it was found that foreign media described the outbreak situation in Xi'an, the lockdown measures implemented, and evaluations of these measures. We can see these concordance lines: "An outbreak of BA.5 has already shut down the north-western city of Xi'an, home to 13 million people", "The Xi'an lockdown, which began in late 2021 and continued into January of 2022", and "Zhong Nanshan, a prominent Chinese pulmonologist, said lockdown measures in Xi'an had shown positive results despite the criticism". However, there were also negative portrayals. For instance, "TWO hospitals in China's locked-down city of Xi'an, including one that refused to treat an eight-month pregnant woman who later miscarried, have been closed while they 'rectify' mistakes", which hurts Xi'an's international image.

4 Conclusions

This study examined reports on Xi'an from 2010 to 2023 in 20 countries and regions using the NOW corpus. From the perspective of discourse analysis, it interpreted the images that foreign media construct about Xi'an: 1) it is the capital of Shaanxi Province in northwestern China, 2) it is a historical ancient city with a rich cultural heritage, 3) it is a thriving emerging city, and 4) it has been affected by the COVID-19 pandemic. Based on the above analysis, it can be concluded that Xi'an, as a new first-tier city, has been attracting increasing international attention over the years. However, this attention

is unevenly distributed. Xi'an should take into account its own historical and cultural background, industrial characteristics, etc., to further strengthen economic development, cultural exchanges, urban construction, and public emergency response to health emergencies, and vigorously promote the international communication of the city's image.

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