

# *Changes in Government Attention to AI Topics in the Perspective of Framing Theory—Taking the Report of AI-related Articles in People's Daily Online as an Example*

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**Keywords:** Framing theory; attention; People's Daily Online; AI technology

**Abstract:** This study explores changes in government attention to the topic of AI from a framing theory perspective, using AI-related reports from China People's Daily Online as an example. The study collected about 16,343 articles including from March 2021 to February 2024, and explored the changes in the framing of the reports in the two periods through a combination of qualitative and quantitative research methods, and found that during the period of March 2021 to November 2022, the reports mainly focused on the application and development of AI technology in various fields, presenting a positive propaganda attitude; whereas during the period of December 2022 to February 2024 period, the reports gradually shifted to reflections and critiques of potential risks of AI, showing more diversity and depth. Overall, the government's attitude toward AI technology shows rationality and balance, and in the future, it can continue to pay attention to its role in national security, social governance, and economic development, promote the healthy development of AI technology, and strengthen cooperation with industry, academia, and all sectors of society.

## 1. Introduction

In the digital era, artificial intelligence (AI), a cutting-edge technology with revolutionary impact, is changing society, economy and culture with unprecedented speed and breadth. For the government, the development of AI is not only about the country's scientific and technological strength and competitiveness, but also directly affects national governance, economic development, and social stability. Therefore, an in-depth study of how governments pay attention to and respond to changes in the topic of AI is of great practical significance and far-reaching theoretical value.

As one of the largest official media in China, the People's Daily's reports on AI technology reflect, to a certain extent, the government's changing attention to AI technology. When introducing this year's government work tasks in the government work report in March 2024, it was proposed to formulate policies to support the high-quality development of the digital economy and carry out the "AI+" action, which is enough to show the government's attention to the development of AI technology. Taking the AI-related article reports on People's Daily Online as an example, this paper

aims to explore the government's change of attention to the topic of AI from the perspective of framing theory. By analyzing the AI reports on People's Daily Online, it can reveal the government's degree of attention, focus of attention, and changes in attitudes towards AI topics in different time periods, so as to further understand the government's strategic adjustments and thinking paths in science and technology development and social governance, with a view to providing references to the government's science and technology policy formulation and implementation.

## 2. Framing theory

As early as 1966, scholars suggested that most of the information we know today is "'second-hand' or 'third-hand' from the mass media or other people" <sup>[1]</sup>( Kurt Lang & Gladys Engel Lang, 1966).Framing theory was first introduced by Burke (1937) and Bateson (1955/1972), and Goffman published *Framing Analysis* in 1974, and from then on the application of framing theory in the social sciences has gradually expanded from the traditional and begun to encompass fields such as linguistics and linguistic anthropology (e.g., Hymes, 1974), sociology and social movement studies (e.g., Snow & Benford, 1988), cognitive psychology and behavioral economics (e.g., Kahneman & Tversky, 1979), and journalism and mass communication studies (e.g., Scheufele, 1999). Since the extension of framing theory to the study of journalism and mass communication, some scholars have begun to analyze the influence of the media on the effects of mass communication. And it should be considered that "the entire study of mass communication is based on the premise that the media has a significant impact" (McQuail, 1994, p. 327) <sup>[2]</sup>. Media influence research addressing important components of framing theory has been broadly divided into four phases: (1) the first phase, from the early 1900s to the late 1930s, when the public began to worry about media influence as a result of strategic propaganda in the First World War, was focused on the impact of media messages on public attitudes; (2) by the late 1960s, Klapper (1960) summarized the the findings, concluding that the non-primary effect of propaganda campaigns was to reinforce existing public attitudes, and that even for those who did change their minds, the effect was negligible; (3) beginning in the 1970s, the main focus was on finding new media with a strong influence effect (Noelle-Neumann, 1973), and the focus of the research shifted to the altered-perception effect of the mass media ( Beniger & Gusek, 1995). (4) From the early 1980s to the present day, characterized by "social constructivism", the study of the interaction between the media and the public, where the media not only shapes social reality, but is also influenced by the recipients, forming a process of co-construction of meaning (Gamson & Modigliani, 1989, p. 2).<sup>[3]</sup>

After the birth of the concept of AI at the Dartmouth Symposium in 1956, the research process of artificial intelligence was slow and stagnant due to the limitations of various technological conditions until after 1980, when the extensive use of expert systems enabled industry to save a lot of costs and enhance industrial efficiency, and the research in AI-related fields was able to develop rapidly. Since then, AI has become a cross-disciplinary, emerging discipline that encompasses the cross-fertilization of multiple disciplines such as computers, psychology, philosophy, etc. Blondel and Thiebault (1988) suggest that governments are unable to pay full attention to all issues raised by the public, and that some issues will be absorbed and enter into the political agenda, while others will not.

The role of the media in news reporting is a multidimensional and complex process, which involves not only the transmission of information and the guidance of public opinion, but also the shaping of social values and the setting of public issues. The media selectively report certain events and information, and by emphasizing or ignoring specific details, they construct the public's perception of AI technology. This framing effect is not only reflected in the government's changing attitude toward AI, but also applies to other public issues. By shaping news frames and directing public attention to certain aspects while ignoring others, the media shapes the public agenda to a

certain extent.

Wing-Hwa Chang (1997) provides a media systems dependency theory perspective that emphasizes the interdependence between the media and social systems. The media is not only a disseminator of information, but also an important part of the social structure. The influence of the media stems from its position and role in the social system, where it meets the information needs of individuals and groups through reporting, while also being influenced and constrained by other social systems. This theory emphasizes the functions and responsibilities of the media in society and its key role in shaping social reality and public perception. Although the Internet, as a high-dimensional medium, has changed the traditional communication ecology in the Internet era, making the individual the basic unit of communication (Yu, 2015), there is still a qualitative difference between the communication power of the individual and that of the media, and at the same time, the party newspaper commentaries have begun to buttress the Internet thinking and realize the transformation of the discourse system under the new media environment, so that, on the basis of maintaining the established advantages, they can winning the approval of more audiences (Zhai Shenliang, 2015). In this case, the public regards the information disseminated by official media as important information and agrees that the role of media in news reporting is multifaceted, as it conveys information, guides public opinion, and shapes social values and public issues. As one of the largest official news websites in China, the reports published on People's Daily, to a certain extent, also show the central government's tendency to pay attention to this aspect of the issue. By combing through the AI-related articles published on People's Daily, we can better understand the reasons behind a series of policies related to "digital development," "digital economy," and "digital government" introduced by China in recent years, as well as the reasons behind these policies. The reason behind a series of policies related to "digital development", "digital economy" and "digital government" introduced by China in recent years can be better understood, and the government's view on the future development of AI technology can be explored<sup>[4]</sup>.

### 3. Research Methodology, Objects of Study and Problems

With the keywords "AI" and "artificial intelligence", the article was searched in the database of People's Daily Online, and as of February 29, 2024, a total of 72,410 samples were retrieved by using Python crawler code. Since some articles are published on multiple platforms or forwarded multiple times after a publication, the duplicates are deleted, leaving a total of 16,343 valid and unique samples. Which news the media chooses to report is an important factor in forming and reflecting media frames, and the analysis of the topics can reflect the frames presented by the media in AI-related reports. Gamson believes that frames have the significance of constructing a text, and frames are the "organized central ideas that give meaning to a news event"<sup>[5]</sup>. By combining qualitative and quantitative analyses of the articles, this paper sets up the analytical frames as follows: the article topic, the page, and the emotional tendency.

### 4. Framework analysis

The most intuitive expression of the degree of media attention is the number of media reports, which directly shows the degree of media selection and emphasis on events. After searching the full-text database of People's Daily Online with the keywords "AI" and "artificial intelligence", the change in the number of articles published at each time can show the change of People's Daily Online's attention to the topic of AI. According to the release time and the number of articles, a trend chart of the number of articles was created, as shown in Figure 1:

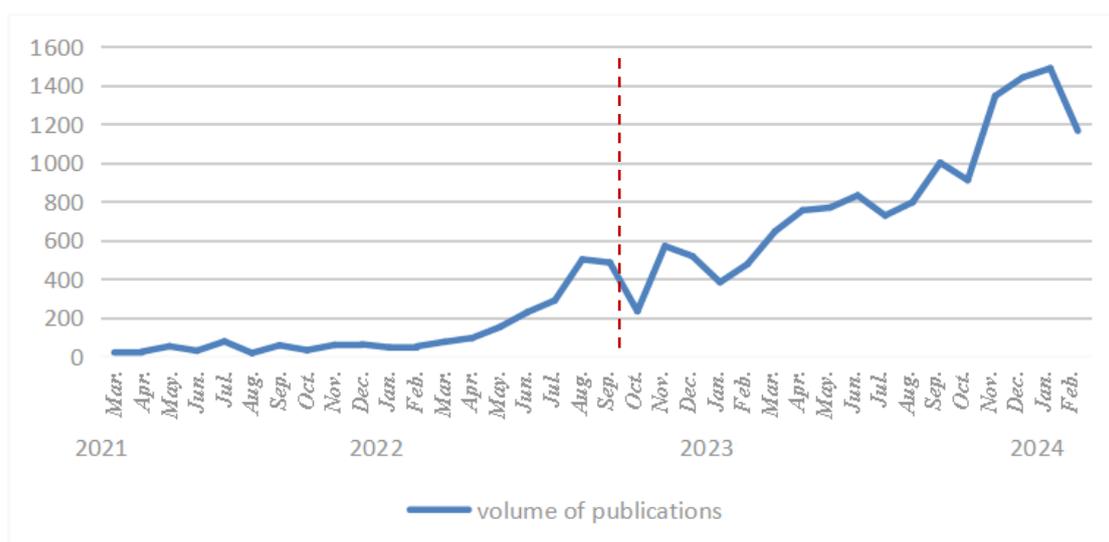


Figure 1: Trend of AI-related article postings on People's Daily Online

According to the trend graph of the number of articles posted, it can be seen that the number of articles posted on the People's Daily Online for AI-related articles increased significantly after November 2022, so the analysis of AI-related articles on the People's Daily Online was divided into 2 time periods, i.e., March 2021-November 2022, and December 2022 to the present. The 16,343 articles were analyzed in a combined qualitative and quantitative framework according to the two different time periods, and after analyzing the reporting framework of the two different time periods, the changes in government attention to the AI field were explored.

#### 4.1 Framework for AI coverage March 2021 - end November 2022

On March 11, 2021, the draft outline of the 14th Five-Year Plan was passed, in which "accelerating digital development and building a digital China" was written as a separate chapter, showing the importance the state attaches to digital development. On March 7, 2021, the People's Daily Online had the first retrievable article related to "AI", with the topic being the livelihood of the elderly.

People's Daily articles are published in different pages, and different pages represent the relevant topics of the articles. Counting and sorting the number of times the relevant articles were published in the pages during the time period (see Table 1 for details), and categorizing them according to the content of the articles, the content of the relevant articles during the time period can be roughly classified into three categories: (1) Introducing the development and application of AI technology in various enterprise sectors, including the conceptual financing situation and the importance of the relevant talents in recruiting; (2) Introducing the application of the development of AI technology in various regions and the future development expectations; (3) introduce the initial application of AI technology in the field of people's livelihood. From the layout of Table 1, AI technology research is still at the forefront of science and technology hotspots, so it is mostly published in the "rolling news" and science and technology sections, introducing the current cutting-edge technology and development in the field of AI. The articles in regional channels mainly introduce the first or featured applications of AI technology in their respective regions. From the number of reports in local channels, Shanghai region has more breakthroughs in AI technology and wider application areas, leading the development of AI in the country. Reports on the application of AI technology in the Shanghai region mainly focus on the construction of digital government affairs and practical applications for people's livelihood, which highlights the temperature of humanistic care more.

Table 1: People's Daily Online Page Statistics of AI-related Articles, March 2021 - End-November 2022

page	count	sort	page	count	sort	page	count	sort
Rolling News	546	1	Sichuan Channel	188	6	Beijing Channel	91	11
Economy - Technology	488	2	Zhejiang Channel	117	7	science and technology	82	12
Shanghai Channel	296	3	Anhui News List	110	8	Guangxi Channel	81	13
headline	263	4	societies	106	9	innovation	81	14
roll over	218	5	Tianjin Channel	99	10	Tianjin Today	78	15

Although AI technology has developed rapidly in the past decade compared to the long history of AI development, AI technology was still in the stage of using tools, and analyzing the emotional tendency of AI-related articles reported by People's Daily during this period, basically they are all positive reports on AI technology. Domestic fields for the development and application of AI technology are in the groping period, looking forward to AI technology breakthroughs can bring convenience to the material life, and the people's network for the breakthroughs in various fields in AI technology and the application of the introduction of encouragement and hope.

#### 4.2 AI Coverage Framework December 2022 - End November 2022

There are 13,231 AI-related articles on the People's Daily Online during this period. The so-called "strongest artificial intelligence in history" ChatGPT will be launched on November 30, 2022, ChatGPT can perform various functions such as smooth answering, writing scripts, writing code, etc., and has already accumulated more than a million users around the world. It can even create poems and jokes, an ability previously thought to belong only to humans. With more than one million users in five days, ChatGPT is considered to have made a new start in AI history. Despite the popularity of ChatGPT, People's Daily did not immediately report on ChatGPT until February 7, 2023, when People's Daily released its first report on ChatGPT, titled "Seemingly omnipotent, will ChatGPT become the industry's "terminator"". At this time, People's Daily still held an objective and neutral attitude towards ChatGPT, believing that ChatGPT could be used as a tool to inspire people. However, after this, the related articles on People's Daily began to criticize and reflect on AI, for the first time and repeatedly appeared "cold thinking", "vigilance" and other words with obvious critical colors, for the development of ChatGPT also carried out the relevant legal aspects of whether the "infringement of confidentiality". "February 15, 2024, the U.S. artificial intelligence research company OpenAI officially released the artificial intelligence text-generated video model Sora, which is the world's first text-generated video application model, in the video production breakthrough in the real and virtual boundaries, the release of which caused a global sensation. It caused a global sensation upon its release. Similarly, the apprehension triggered by ChatGPT still continues on Sora.2024 On February 20, 2024, the first report about Sora on the People's Daily Online used the term "mixed feelings", and a later report on the main news site used the phrase "to applaud but also to be vigilant", clearly indicating the concern about Sora. A later report on the main news site used the phrase "to applaud but also to be wary", clearly indicating the attitude towards the Sora.

While the development of AI virtual technology is getting faster and faster, there are numerous instances of some illegal elements utilizing AI for fraudulent purposes. People's Daily's apprehensive sentiment towards AI is not only directed at ChatGPT and Sora, but also a deep thought and discussion on the misuse of AI technology. Despite the negative cases of AI technology application, People's Daily is still generally supportive of AI technology, which has been used by illegal elements

for fraud and also for "digital immortality of the dead", bringing a lot of emotion to the public.

Table 2 is a result of the statistics and ranking of the number of published pages of the articles within the time period. Comparing with Table 1, the pages and rankings are more or less similar, only that the number of articles published has been greatly improved. In addition, in the top 15 sections, there are two more sections, "Education" and "General". Analyzed from the content, it is an increase in the application of AI technology into real life after its gradual maturity. Combined with People's Daily's reflection on AI, the framework of People's Daily's coverage of AI has gradually shifted from simple technology introduction and positive publicity to more complex coverage that embraces different perspectives and attitudes, reflecting the deepening and diversification of society's perception of AI technology. By cross-analyzing the themes of relevant articles on People's Daily during this period, it can be seen that People's Daily's attention to AI technology continues to increase, and that it is increasingly focusing on the role of AI technology in satisfying people's material and cultural life.

Table 2: People's Daily Online Page Statistics for AI-related Articles, December 2022 - End of February 2024

page	count	sort	page	count	sort	page	count	sort
Rolling News	2198	1	Sichuan Channel	936	6	societies	376	11
Economy - Technology	1829	2	Anhui News List	481	7	Original	366	12
headline	1259	3	innovation	463	8	Zhejiang Channel	343	13
roll over	1244	4	Beijing Channel	424	9	teach	341	14
Shanghai Channel	1090	5	science and technology	398	10	synthesize	295	15

### 4.3 The "Beijing-Chengdu" demarcation line



Figure 2: Number of AI-related results reported by region, March 2021 - end-November 2022

An article may be published in only one page, or it may be published in multiple pages because it

covers more areas or the article is of high quality, and the format of each city news page containing place names varies. In order to have a more intuitive understanding of the number of AI-related technological achievements and applications in each city, this paper constructs a word list containing cities of all provinces and municipalities directly under the central government in the whole country (generally, articles published only in the pages of prefecture-level cities and below are either limited in their application scope or of weaker importance, so this paper filters out the articles during the data processing, and only retains the representative AI-related achievements and applications in each province). In this paper, we extracted the names of cities in the pre-processed pages, and according to the size of the frequency of mentions, we drew a map reflecting the geographic distribution of the frequency of city mentions (Figures 2-3).

Maps of China



Figure 3: Number of AI-related results reported by region, December 2022 - end- February2024

According to the color shades plotted for each region in Figures 2 and 3, although the ranking of the number of reports in each region changed slightly during the two periods, a more fixed regional development division was formed, with "Beijing-Chengdu" as the demarcation line, and regions north of the Beijing-Chengdu demarcation line were either lacking in reporting initiatives or had fewer AI-related applications, resulting in fewer reports, while regions south of the Beijing-Chengdu demarcation line were significantly darker. Regions north of the Beijing-Chengdu demarcation line either lack reporting initiatives or have fewer AI-related applications, resulting in fewer reports, while regions south of the Beijing-Chengdu demarcation line are significantly darker. Among them, it can be clearly seen that Shanghai is far ahead in the number of reports on AI-related achievements. As China's economic center and science and technology innovation center, Shanghai has many excellent higher education institutions and research institutes, which provides a solid foundation for the research and innovation of AI technology, and has always been one of China's pioneers in the field of AI, and the fact that Shanghai has hosted the World Conference on Artificial Intelligence for many consecutive years since the beginning of 2018 has also demonstrated its determination and perseverance in research in the field of AI. Sichuan, Anhui, Beijing, Zhejiang and Hubei also have a higher number of reports, which is related to the economic strength, scientific and technological

atmosphere, as well as government support in these regions, and have gradually increased their investment in the science and technology industry in recent years, thus also leading to a higher number of reports on AI on the People's Daily Online.

At the same time, comparing the GDP values of various places, it can be found that the cities with a higher number of AI-related achievements reported have a higher degree of overlap with the more economically developed regions, and in the economically developed regions, the government can turn its attention more to the development of tertiary industries, and also provide as much resource support as possible for the development of the technology in the budding stage. Due to central policy encouragement, governments around the world are also scrambling to build a perfect digital government and promote AI as a key area to build the city's image. By publicizing the city's AI technology achievements through the People's Daily media, the government can demonstrate its technological strength in scientific and technological innovation and industrial development, which will help to attract more investment and talent, promote the development of the local AI industry, and form a benign development cycle.

## 5. Conclusion

This paper analyzes the framing of the coverage of AI-related articles in People's Daily, which is in fact an analysis of the change in the attention of the government behind People's Daily to the topic of AI. The role and function of the government in the development of the AI market economy is multifaceted, and the change of its attention not only reflects its emphasis on technological development, but also its deep understanding of the impact on the market and society. During the period from March 2021 to November 2022, the government mainly focuses on the application and development of AI technology in various fields, and the reports are dominated by positive propaganda; while during the period from December 2022 to February 2024, with the rapid development and application of AI technology, the government begins to think more deeply about the potential and risks of the development of AI, and the reports show more criticism and reflection, and the government's role has gradually shifted from a single enabler and supporter to a more complex and diverse role, including regulator, coordinator, and partner. Overall, the government's attitude toward AI technology is gradually becoming more rational and balanced, focusing on technological innovation while also emphasizing vigilance and response to potential risks.

In the future, with the continuous development and application of AI technology, the role of the government in AI technology will be more diversified, and it needs to pay more attention to the role and impact of AI in national security, social governance, economic development, etc., and to strengthen technical supervision and policy guidance to promote the healthy development of AI technology.

As a regulator, the government needs to formulate and enforce relevant laws and regulations to ensure that the development of AI technology does not jeopardize the rights of citizens and the public interest of society, including the protection of personal privacy, data security, intellectual property rights, and the prevention of algorithmic discrimination. Official media mouthpieces, represented by People's Daily, need to pay closer attention to the ethical and legal issues that may arise from AI technology, and adjust and improve their policies in a timely manner, in order to prevent market failures and power corruption from occurring.

As a coordinator, the government needs to balance the interests of all parties in the development of AI technology and promote cooperation and communication among industry, academia and all sectors of society. It should promote the innovation and application of AI technology by establishing public platforms, providing research funding, and promoting cooperation between industry, academia and research. At the same time, the official media, represented by the People's Daily, also need to pay

attention to the impact of AI technology on employment, education and social structure, and help citizens adapt to technological change and reduce social friction through education and training and other measures.

As a partner, the government needs to collaborate with the business sector and the international community to jointly promote the global development of AI technology. The government should take a more proactive stance to participate in the development of relevant international standards, promote international cooperation and exchanges in AI technology, jointly address global challenges, promote domestic innovation and application of AI technology, and also provide Chinese wisdom and Chinese solutions for global AI governance.

This research was funded by the China National College Student Innovation and Entrepreneurship Training Program, grant number 202211483014.

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