Abstract. The Russo-Ukraine war has drawn attention worldwide. Previous studies have revealed how the conflict affected global patterns and international interactions. This article refined the scope of the study by focusing on the agenda-setting and attribute agenda-setting that media in mainland China and Taiwan Province of China set when reporting the Russo-Ukraine war. A total of 471 of the People’s Daily and the Liberty Times’ news were examined by the LDA model to categorize their agendas and key words of the attribute agenda-setting. The study found that both parties set four agendas: diagnose causes, economic consequences, international relationship and remedy. Mainland China additionally added nationalization agenda. The huge differences in attribute agenda-setting between the two sides were a reflection of the divergent political objectives of the two parties in mainland China and Taiwan province. The results suggested that the Russo-Ukrainian war was revealed by a multiparty convergence of media and government agendas, and neither medium paid heed to the public agenda in their reportage.

1 Introduction

The Russo-Ukrainian war has been an influential geopolitical event since the 21st century, which has not only affected the relations between Russia and Ukraine, and the chain reaction triggered by the war is spreading globally, with profound and long-term impacts on the international order [1]. Thus, many recent studies have focused on the influence of the Russo-Ukrainian war on international relations.

However, only some studies have studied the media agenda-setting from the perspective of news reporting, especially in war third-party countries. Influenced by the Russo-Ukrainian war, Cross-Strait relations are growing more strained. The party media in mainland China and Taiwan special administrative region in China have different stances on reporting the war between Russia and Ukraine. This research sought to investigate how the Russo-Ukrainian war was covered in the media based on news from the People’s Daily and the Liberty Times. It compared the differences between agenda-setting and attribute agenda-setting in mainland China and Taiwan province based on the LDA model.

2 Literature review

The news media are the main communication intermediaries that mold the general public’s worldviews [2]. Although there are many alternatives, news media remain the primary way for most people to learn about the outside world [3]. Specifically, the news media are crucial in influencing public opinion since they choose and deliver news [4]. The original concept of establishing the agenda is based on the conventional wisdom of selecting news [5]. Bernard Cohen states that the media excels at telling the audience what to think [6]. McCombs and Shaw find in a study that the 1968 presidential election saw a close relationship between the topics highlighted in the media and those of public interest [5]. That is, the media can influence public attention to certain events. With the development of agenda-setting theory, attribute agenda-setting is proposed. Researchers find that media can not only influence what people think, but also inform the public about how they think. According to McCombs, each agenda has a variety of attributes, and the news media will choose to highlight or downplay particular attributes while covering these agendas, influencing the audience’s perception of the events.

Agenda-setting is one of the key lenses for interpreting and comprehending how media promotes critical problems and emphasizes messages related to warfare and conflict [7]. The preselection of right-leaning individuals, internalized prejudices, staff members’ adaptability to political power and other factors contribute to media biases [8]. Governments attempt to (re)frame reality and shape awareness of domination and affect the world stage, particularly during times of war [9]. Thus, the more the media focuses on one agenda by framing it in a certain manner, the more significant it may appear to the public, supporting certain attitudes and understandings of the war or conflict.

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The existing literature mainly focuses on analyzing the Russo-Ukrainian war from a macro viewpoint. In contrast, less is known about how media constructed the war, especially in third-party countries. Based on this, this study will examine topics that pertain to the Russo-Ukrainian war within the context of the war: What agendas do the mainstream media in mainland China and Taiwan province mainly set in the war between Russia and Ukraine? What attributes are highlighted in various agendas? What are the differences in the attribute agenda-setting?

3 Method

3.1 Procedure and instruments

This study applied a mixed-method approach to explore and analyze the agenda-setting and attribute agenda-setting of media in mainland China and Taiwan province. The study combined qualitative and quantitative research methods for gathering data allowing for the convergence and corroboration of the results.

This study selected two media from mainland China and Taiwan province as research subjects: People’s Daily and Liberty Times. As Party media, the People’s Daily is a significant news organization in China, publicizing the propositions of the Communist Party. The Liberty Times is one of the three major newspapers in Taiwan province, a pro-green media in line with Tsai Ing-wen, the current president of the Republic of China (Taiwan).

The time frame of the study was 24th February 2022–24th February 2023, a year after the war. The WiseNews database provided the data for the Russo-Ukrainian war, with data volumes 274 for People’s Daily and 197 for Liberty Times after deleting redundant and irrelevant news pieces.

3.2 Data analysis

For the large data analysis in the study, Python was employed together with Latent Dirichlet Allocation (LDA) Topic Modeling.

The primary method by which the LDA theme model determines the subject of each news item in the news data set is a probability distribution. In the context of journalism study, the themes indicated by the LDA model will reflect a classification of concerns or frames based on substantive theory [10]. The output is a list of topics included in the news data set, known as attribute agenda-setting, which also includes keyword clusters [11].

This study employed Python for data cleaning, including segmentation, number deletion and feature selection. “Genism” was used by a Python three-way library to train all news articles. After repeating models with different numbers of topics several times, the study calculated the lowest perplexity, determining the correct number of topics. After calculation, the optimal number of topics in People’s Daily is five, while in Liberty Times, the number is four.

Framework analysis can be introduced into attribute agenda-setting, according to McCombs [12]. This study drew on the news event framework proposed by other scholars. Entman summarized the news framework into four categories: making moral judgments, diagnosing causes, suggesting remedies and defining problems [13]. Attribution of responsibility, conflict, human interest, economic consequences and morality were five news frames investigated by Semetko and Valkenburg (2000) [14]. To determine what the media is referring to in the news about the 2014–2015 Ukraine conflict reported by BBC and RT, Liu employed generic, diagnostic, and prognostic frames to analyze the news framing [7]. Wang selected the content published by the ambassadors of Russia and Ukraine to China on Sina Weibo during the Russo-Ukrainian war as a sample and extracted four frameworks of mobilization, remedy, accusation and denial [15]. Based on Semetko and Valkenburg, Zheng added an international relationship news frame to study reports on the changing situation in Afghanistan from the Global Times [16].

Based on the earlier studies of news frames and their specific agendas, this study divided the Russo-Ukrainian war reports into different attribute agenda-setting by human coding in content analysis. The People’s Daily has five agendas with five attribute agenda-setting, and the Liberty Times has four agendas with four attribute agenda settings.

<table>
<thead>
<tr>
<th>Media</th>
<th>Agenda</th>
<th>News Number</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>People’s Daily</td>
<td>Diagnose causes</td>
<td>80</td>
<td>29.20%</td>
</tr>
<tr>
<td></td>
<td>Economic consequences</td>
<td>16</td>
<td>5.84%</td>
</tr>
<tr>
<td></td>
<td>International relationship</td>
<td>138</td>
<td>50.36%</td>
</tr>
<tr>
<td></td>
<td>Remedy</td>
<td>33</td>
<td>12.04%</td>
</tr>
<tr>
<td></td>
<td>Nationalization</td>
<td>7</td>
<td>2.55%</td>
</tr>
<tr>
<td>Liberty Times</td>
<td>Diagnose causes</td>
<td>51</td>
<td>25.89%</td>
</tr>
<tr>
<td></td>
<td>Economic consequences</td>
<td>60</td>
<td>30.46%</td>
</tr>
<tr>
<td></td>
<td>International relationship</td>
<td>54</td>
<td>27.41%</td>
</tr>
<tr>
<td></td>
<td>Remedy</td>
<td>32</td>
<td>16.24%</td>
</tr>
</tbody>
</table>

Table 1. Type and quantity of Russo-Ukrainian war agenda in mainland China and Taiwan province.
4 Results and discussion

4.1 Agenda-setting of mainland China and Taiwan province

The data in Table 1 above shows that the two media have a high overlap rate of news agendas. The People’s Daily set five agendas: diagnose causes, economic consequences, international relationship, remedy and nationalization, and the Liberty Times set up the same four agendas besides nationalization. The nationalization frame, which refers to the practice of covering international news from a domestic perspective, is frequently associated with ethnocentrism [17]. 2.55% of the news in the People’s Daily belong to the nationalization agenda. These news are based on the background of the Russo-Ukrainian war, emphasizing the need for China’s development to follow the footsteps and strategies of the Chinese Communist Party (CCP) and highlighting the advantages of socialism. People’s Daily, a state-backed media outlet, frequently bases its narratives on government agencies and officials [18]. Its information sources are mostly the opinions of powerful people and recognized authorities [19].

The results shown in Figure 1 indicate that mainstream media in mainland China and Taiwan province have different levels of attention to various agendas. The Liberty Times is most concerned about economic consequences (30.46%), while the People’s Daily reported 5.84% of this agenda. Economic development involves the lifeblood of national development and residents’ daily lives. However, with the global economic downturn against the backdrop of the Russo-Ukrainian war and the tense situation in the Taiwan Straits affecting Taiwan province’s economy, economic consequences have become the center of public attention. The Liberty Times focuses on this agenda to satisfy the public’s information needs. In contrast, the conflict had a less economic impact in mainland China, hence less media coverage. The Russo-Ukrainian war is the most significant geopolitical conflict since the Cold War’s end, which has pushed international strategic forces and patterns to undergo profound adjustments [20]. China is always concerned about and grasps international trends as a world power, so international relationship is the most concerned topic in the People’s Daily (50.36%). This topic has also received media attention in Taiwan province (27.41%). Diagnosing causes and remedy is a focused agenda of global audience concern. Thus, compared to the People’s Daily and the Liberty Times, the proportion of the two agendas is relatively close.

Fig. 1. Comparison of the Number of Mainstream Medias Agendas in mainland China and Taiwan province.

4.2 Attribute agenda-setting of mainland China and Taiwan province

Attribute agenda-setting can influence the audience’s attitude and impression of events through reporting angles, words and so on. Attributes include agenda characteristics, sub-agendas, emotional and cognitive elements [21]. The LDA model can automatically find highly relevant and frequent keywords for attribute concerns. This study mainly analyzes the attribute agenda-setting of mainland China and Taiwan province in terms of attribute agendas and keywords. Since no report in the Liberty Times deals with nationalization and the People’s Daily pays less attention to this topic, the attribute agenda-setting of nationalization is not included in this study. The study will analyze four agendas: diagnose causes, economic consequences, international relationship and remedy.

4.2.1 Diagnose causes

National interests influence the media’s choice of angles, contents and themes in reporting, thus the media’s news agenda-setting [22]. The People’s Daily and the Liberty Times have adopted different portrayals of the Russo-Ukrainian war, according to Table 2. The People’s Daily does not show a clear position on the war. However, it points the finger of war at a third party, America. The People’s Daily describes the war as a
way for the United States to seize geopolitical and economic benefits. The People’s Daily uses words like “Cold War thinking,” “hegemony,” “importing color revolutions into Ukraine” and “interfering in the sovereignty” to describe the actions of America. The People’s Daily is firmly in favor of Ukraine. It describes Ukraine as the hero of fighting for its democracy and freedom. While Russia presents an image of a dictatorial and brutal state, invading Ukraine and violating human rights.

Table 2. The “Diagnose Causes” of the Russo-Ukrainian war between mainland China and Taiwan province.

<table>
<thead>
<tr>
<th>Media</th>
<th>Attribute Agenda-setting</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>People’s Daily</td>
<td>Geopolitical Factors</td>
<td>America, Ukraine, conflict, politics, cold war, sovereignty, NATO, safeguard, hegemony, interest</td>
</tr>
<tr>
<td>Liberty Times</td>
<td>Human Rights Violations</td>
<td>Putin, Russia, invade, brutal, people, Ukraine, democracy, dictatorship, threat, condemn</td>
</tr>
</tbody>
</table>

4.2.2 Economic consequences

The Russo-Ukrainian war has triggered different levels and aspects of economic concern among the governments and the people. As a carrier of information dissemination, the media has the role of informing the audience of information. However, there is a clear difference between the People’s Daily and the Liberty Times in the degree of importance and focus of attention on the agenda of economic consequences (Table 3).

First of all, regarding the number of agendas, the People’s Daily pays significantly less attention to economic consequences than the Liberty Times, accounting for 30.46% of the Liberty Times. In comparison, the People’s Daily only accounts for 5.84%. The Liberty Times has roughly five times as many agendas as the People’s Daily.

In addition, the two media outlets have different focuses on the agenda. The People’s Daily focuses mainly on the effects of the conflict on the nation’s economy. It uses “inflation” and “decelerate” to depict the influence of the economic development affected by the war. However, China’s economy is highly resilient to the adverse effects of the war, and thus the economic consequences are not the focus of China’s concern. On the contrary, economic consequences are the most concerning agenda in Taiwan province. “Export” is the most used keyword in the Liberty Times, meaning that Taiwan province’s economy is affected by Russia’s export restrictions. As an importer of energy and food, Taiwan province is more affected by price changes than mainland China. As shown in Table 3, food and energy (including electricity and fuel) are the most concerned topics in Taiwan province.

Table 3. The “Economic Consequences” of the Russo-Ukrainian war between mainland China and Taiwan province.

<table>
<thead>
<tr>
<th>Media</th>
<th>Attribute Agenda-setting</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>People’s Daily</td>
<td>Economic Development</td>
<td>Inflation, market, decelerate, enterprise, price, impact, unexpected, economic society, build</td>
</tr>
<tr>
<td>Liberty Times</td>
<td>Cost of Material</td>
<td>Export, food, electric power, electrovalency, fuel, energy, price, cost, increase, long period</td>
</tr>
</tbody>
</table>

4.2.3 International relationship

The mass media have responsibilities and obligations in monitoring public opinion, that is, using “the fourth power” of the media. Influenced by the national political system, different subjects have different roles in maintaining the functioning of society (Table 4). The diplomatic posture of their respective political parties is a significant topic of discussion in both media.

The People’s Daily highlighted “peace” and “development,” pointing out the importance of building a “Community of Common Destiny” for the promotion of world peace and reinforcing the CPC’s diplomatic image of safeguarding peace and promoting mutual benefits and
win-win situations in the international arena. In addition, the People’s Daily focuses its coverage on the United States, expressing dissatisfaction with its illegal unilateral sanctions, disturbing Taiwan Strait relations and other actions that destroy world peace, indicating the tense international relations between China and America. Against the backdrop of tensions in the Taiwan Strait, the Liberty Times negatively presents the image of mainland China, which also highlights the Liberty Times’ characteristic of defending party interests based on the DPP’s position while guiding public opinion. In addition, the words most used by the Liberty Times are “trust” and “cooperation,” intending to draw closer to countries such as the United States and Japan and conduct globalization diplomacy.

Table 4. The “International Relationship” of the Russo-Ukrainian war between mainland China and Taiwan province.

<table>
<thead>
<tr>
<th>Media</th>
<th>Attribute Agenda-setting</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>People’s Daily</td>
<td>Peace Diplomacy</td>
<td>Peace, America, cooperation, initiative, development, Community of Common Destiny, global, dialogue, guarantee, BRIC</td>
</tr>
<tr>
<td>Liberty Times</td>
<td>Globalization Diplomacy</td>
<td>China, America, Chinese Communist, international, Taiwan strait, Japan, Europe, cooperation, autocracy, trust</td>
</tr>
</tbody>
</table>

4.2.4 Remedy

Affected by the Russo-Ukrainian war, the governments of mainland China and Taiwan province have introduced or planned to introduce relevant policies to stabilize their societies. Thus in the agenda of remedy, the media’s primary role is to connect to the government agenda. The media need to convey and interpret the policy information provided by the government in a timely manner so that the audience can understand the facts. Table 5 shows that based on the different political party interests in mainland China and Taiwan province, the attribute agenda-setting of the two media are not the same.

China’s economy is under downward pressure due to the war and other factors. The People’s Daily highlights China’s current trend of “economic growth” and reinforces the role of proactive policies enacted by the government in promoting economic development. In addition, the People’s Daily also emphasizes the importance of scientific and technological self-reliance for national security. The Liberty Times, in contrast to the People’s Daily, concentrates on enhancing Taiwan province’s national defense in light of the effects of the Russo-Ukrainian war. The first is to strengthen Taiwan province’s military capability, as seen by the high frequency of the keywords “weapons” and “tanks” in the Liberty Times; the second is to strengthen Taiwan province’s sense of identity so that the whole region can be united, as evidenced by the high frequency of the keywords “cognition” and “nationality”.

Table 5. The “Remedy” of the Russo-Ukrainian war between mainland China and Taiwan province.

<table>
<thead>
<tr>
<th>Media</th>
<th>Attribute Agenda-setting</th>
<th>Key Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>People’s Daily</td>
<td>Economic Recovery</td>
<td>Economy, growth, policy, development, stabilization, pressure, technology, national security, logistics, energy</td>
</tr>
<tr>
<td>Liberty Times</td>
<td>Increase Defence Capability</td>
<td>Tank, weapon, anti-aircraft, National Army (National Revolutionary Army), Taiwanese, defence, troop, drill, cognition, nationality</td>
</tr>
</tbody>
</table>

5 Conclusion

The study finds that the Russo-Ukrainian war is shown through a multi-party convergence of media and government agendas, however neither media pays attention to the public agenda in their coverage. The
media in mainland China and Taiwan province share familiar features of the Russo-Ukrainian war agenda. People’s Daily also covers the topic of nationalization in addition to the four categories of topics, including diagnose causes, economic consequences, international relationship and remedy, which are frequently covered by both media. The agendas of diagnose causes and international relationship are focused by both media regarding the attribute agenda-setting for each type of subject. People’s Daily implies to the readers that America is a war facilitator and a perpetrator of the destabilization of world order by mentioning “America” in both the diagnose causes and the international relationship agendas. People’s Daily portrays a responsible picture of China through its diplomatic themes of “peace” and “community of common destiny,” as well as its positive emotional qualities. The Russo-Ukrainian war is blamed on “dictatorship” and “brutal” behavior by Russia, according to the Liberty Times, which also voices “trust” and “cooperation” with the U.S.. Different levels of interest in the economic consequences agenda exist in the mainland China and Taiwan province. With more articles and a focus on market price movements, the Liberty Times draws readers’ attention to price changes in the industry. This subject receives only a little attention in the People’s Daily. Both media place a strong emphasis on the role of the government in the remedy agenda, with the People’s Daily emphasizing economic efforts and the Liberty Times emphasizing defense activities.

This study broadens the application and scope of the LDA model. It provides a clearer picture of agenda-setting and attribute agenda-setting, which previous studies pay less attention to. Moreover, these findings can help the public understand the media’s agenda-setting and reporting bias, improving their critical thinking and dialectical analysis of news reading. The present study lays a series of theoretical foundations for future research in this area.

There are some limitations in this study. The limited sample capacity cannot cover all stages of the Russo-Ukrainian war evenly. Therefore, the findings may not be generalizable. Follow-up studies should choose more media representatives and undertake empirical research with a larger sample size for more accurate results and thorough analysis.

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