

Joint Master in Global Economic Governance and Public Affairs

Media, Development, and International Relations in Post- Conflict Liberia: A Computational Analysis of News Narratives

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Adeline Chartol Thesis Elevator Pitch: <https://www.youtube.com/watch?v=AEPg9XOKtgI>

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Statutory Declaration

I hereby declare that I have composed the present thesis autonomously and without use of any other than the cited sources or means. I have indicated parts that were taken out of published or unpublished work correctly and in a verifiable manner through a quotation. I further assure that I have not presented this thesis to any other institute or university for evaluation and that it has not been published before.

June 26, 2025, Adeline Chartol

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Dedication

I dedicate this work to my grandmother, Bernie Smith, who passed away this year but whose influence permeates every page. As a social worker who faced her own challenges in pursuing higher education, she understood deeply the transformative power of knowledge and the importance of using it to serve others. Her journey in obtaining her master's degree, despite the obstacles she faced, instilled in our family a fierce commitment to education and intellectual pursuit. She taught me what it means to be a modern woman—tough, hardworking, strong, career-driven, patient, loving, funny, and most importantly, "whatever the hell I want to be." Her sarcastic wit kept me grounded, her stories of struggle reminded me of my privilege, and her unwavering belief in education as a pathway to empowerment pushed me to pursue this research. Though she is no longer here to see its completion, I carry her wisdom and love into everything I do.

Abstract

This study examines how Liberian media constructs narratives about international actors (United States, European Union, Russia, and China) in relation to Liberia's Pro-Poor Agenda for Prosperity and Development (PAPD). Using computational text analysis of news articles from 2021-2023, the research employs sentiment analysis, PAPD-alignment measurement, and structural topic modeling to reveal systematic patterns in media representation. Key findings show China and the EU received nearly identical highly positive sentiment despite representing different ideological blocs, while Russia displayed balanced sentiment and the US occupied an intermediate position. Overall PAPD alignment correlated positively with sentiment, but this relationship varied dramatically by country: China showed the strongest positive correlation, while the US exhibited a negative correlation, indicating more critical coverage of US activities aligned with PAPD goals. Topic modeling revealed systematic "narrative economies" where development-oriented topics consistently generated positive sentiment, while conflict-related topics produced negative sentiment, patterns that transcended geopolitical divisions. These findings suggest that Liberian media evaluates international actors primarily through their perceived contribution to national development rather than ideological alignment, introducing "development-aligned narrative construction" as a framework for understanding how post-conflict African media exercises agency in shaping international relations discourse, with significant implications for soft power theory and development practice in contemporary Africa.

Chapter 1: INTRODUCTION

In an era of intensifying geopolitical competition, Africa has emerged as a critical arena where global powers vie for influence through development assistance, infrastructure investment, and strategic partnerships. This competition manifests not only through material resources but increasingly through what this study terms 'development-aligned narrative construction,' the process by which media representations of international actors systematically align with or diverge from host country development priorities. Building on Somers' (1994) theory of narrative identity and Entman's (1993) conceptualization of media framing, this study introduces this concept to capture how national media construct distinct narrative profiles of international actors based on perceived alignment with domestic development discourse, generating systematic patterns of representation. Nowhere is this dynamic more evident than in post-conflict states, where the reconstruction imperative creates both opportunities and vulnerabilities as nations navigate relationships with multiple external partners. This study examines how Liberian media positions international actors within national development discourse by analyzing news representations of the United States, European Union, Russia, and China, revealing how soft power is mediated through perceived alignment with host country development frameworks.

Liberia presents a particularly illuminating case for understanding these dynamics. As Africa's oldest republic, founded in 1847 by freed American slaves and free-born Black Americans, Liberia's trajectory diverges from typical postcolonial African states. Its devastating civil wars (1989-2003) created what Best et al. (2007) describe as one of Africa's most challenging reconstruction contexts, displacing nearly one-third of the population and claiming approximately 250,000 lives. The subsequent international intervention, culminating in the United Nations Mission in Liberia (UNMIL) from 2003-2018, transformed Liberia into a laboratory for post-conflict development approaches. Today, as Liberia implements its Pro-Poor Agenda for Prosperity and Development (PAPD) following UNMIL's withdrawal, the nation must balance relationships with diverse international partners while asserting ownership over its development trajectory.

Despite extensive scholarship on soft power projection and media influence in international relations, a critical gap exists in understanding how international actors' alignment with national development priorities shapes their media portrayal in African contexts. While studies have examined Chinese media strategies in Africa (Wasserman & Madrid-Morales, 2018), EU development communication (Yang, 2022), and Russian engagement with African states (Matusevich, 2019), no systematic analysis has investigated how these actors' narratives correlate with host country development frameworks. This gap is particularly significant given that African nations increasingly assert agency in defining development priorities, challenging traditional donor-recipient dynamics.

This research addresses this gap through a novel computational text analysis of 455 news articles from Liberian media (2021-2023), examining how sentiment toward international actors correlates with their alignment to the PAPD's four pillars: Power to the People, Economy and Jobs, Sustaining the Peace, and Governance and Transparency. The Pro-Poor

Agenda for Prosperity and Development (PAPD) is Liberia's national development framework introduced by President George Weah's administration in 2018, following the withdrawal of the United Nations Mission in Liberia (UNMIL). The PAPD is structured around four interconnected pillars: (1) Power to the People, which focuses on democratic governance, rights, and citizen empowerment; (2) Economy and Jobs, emphasizing economic growth and employment creation; (3) Sustaining the Peace, addressing security and post-conflict stability; and (4) Governance and Transparency, promoting accountable institutions and anti-corruption measures. These pillars collectively represent Liberia's priorities for post-conflict reconstruction and sustainable development.

By integrating lexicoder sentiment analysis, structural topic modeling, and a custom-developed PAPD dictionary, this study reveals how international actors achieve legitimacy through strategic narrative alignment. The findings challenge conventional East-West dichotomies, demonstrating that narrative positioning vis-à-vis national development priorities may be distinctly determinative of media portrayal compared to geopolitical bloc affiliation.

Theoretically, this research contributes to multiple scholarly conversations. First, it extends soft power theory by demonstrating how alignment with host country development frameworks serves as a mechanism for influence projection in post-conflict contexts, what this study terms "development-aligned soft power." Second, it advances media framing scholarship by operationalizing Somers' (1994) concept of "narrative economies" to show how certain development topics systematically generate positive or negative coverage of international actors. Third, it contributes to critical development studies by revealing how international actors navigate the tension between asserting influence and respecting national ownership of development processes.

Methodologically, this study introduces the integration of computational text analysis with policy document analysis in African media studies. The development of a PAPD-specific dictionary using TF-IDF extraction, machine learning validation, and semantic expansion demonstrates how computational methods can capture context-specific development discourse. This approach offers a replicable framework for analyzing media-policy alignment in other developing nation contexts, addressing the challenge of measuring abstract concepts like "development alignment" in systematic ways.

The implications of this research extend beyond academic discourse. For policymakers in post-conflict states, understanding how international actors position themselves within national development narratives provides insights for managing external partnerships while maintaining development sovereignty. For international development practitioners, the findings highlight the importance of genuine alignment with host country priorities rather than merely rhetorical adherence. For scholars of international relations, the results challenge assumptions about how soft power operates in contemporary Africa, suggesting that the ability to align with local development aspirations may be becoming as important as traditional cultural or economic influence.

This thesis proceeds as follows: Chapter 2 reviews relevant literature on media framing, soft power projection, and international engagement in post-conflict African contexts. Chapter 3 develops the theoretical framework, integrating insights from framing theory, narrative analysis, and soft power scholarship. Chapter 4 details the methodological approach, including data collection, dictionary construction, and analytical procedures. Chapter 5 presents the empirical findings, revealing distinct patterns in how international actors are portrayed in relation to PAPD priorities. Chapter 6 interprets these findings within Liberia's historical and contemporary context, while Chapter 7 concludes by discussing theoretical contributions, practical implications, and directions for future research. Through this analysis, the study illuminates how the battle for influence in 21st-century Africa increasingly occurs not through coercion or inducement, but through the strategic alignment of international engagement with national development aspirations.

Chapter 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Media Representation and Influence of International Actors in Liberia

Introduction to Media Framing and International Influence in Liberia

The significant role of media framing in shaping public perception has been well-established in the literature, particularly in developing democracies like Liberia. Shaw (2007) documented how media framing played a decisive role during the 2005 Liberian presidential runoff election, emphasizing then-candidate Sirleaf's qualifications while highlighting her opponent's weaknesses. This historical precedent demonstrates the media's power to influence political discourse and public opinion in Liberia's developing democracy. This work will build on Shaw's (2007), making the assumption that Liberian media has framing power. There has been little research on media framing and international relations in Liberia, which this work aims to contribute to.

Media framing analysis provides a robust theoretical foundation for examining how international actors are portrayed in Liberian news media. Entman (1993, p. 52) defined framing as the process of selecting "some aspects of a perceived reality and making them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/pr treatment recommendation." This concept reveals how media coverage can emphasize certain aspects of international actors' involvement with Liberia while downplaying others, which directly supports the computational identification of sentiment patterns across international actors.

Building on this foundation, Gamson and Modigliani (1989) conceptualize media discourse and public opinion as "two parallel systems of constructing meaning" (p. 1), positioning media content not as simple reflection of reality but as an active site where meanings about international actors are constructed. Their concept of "interpretive packages" offers a theoretical framework for understanding how media represent international actors through coherent packages with "an internal structure. At its core is a central organizing idea, or frame, for making sense of relevant events, suggesting what is at issue" (p. 3). These

packages include various "condensing symbols" such as metaphors, catchphrases, and depictions that suggest how to think about an issue. This theoretical perspective directly supports this analysis of how China, the EU, Russia, and the US are portrayed through distinctive narrative profiles in Liberian media, with each actor associated with specific topics and sentiment patterns that constitute their media identity.

International Actors' Media Strategies and Representation

Wekesa's (2013) research on "Emerging trends and patterns in China-Africa media dynamics" provides theoretical grounding for examining international actors' portrayal in African media. This work highlights the complex interplay between media framing and geopolitical objectives, demonstrating how news coverage serves as a tool for international actors to extend influence through strategic narratives. Wekesa observed that media representations often exist on a dichotomous spectrum (either exploitative or benevolent), which may influence sentiment patterns detected through lexicoder analysis.

Chatin and Gallarotti's (2016) examination of BRICS nations reveals how countries like Russia and China strategically cultivate positive images abroad through various mechanisms, including media networks that function as vehicles for "information warfare" in global competition for influence. They note that "a positive image generates respect and admiration, which, in turn, render nations that have soft power more endearing in the eyes of other nations," suggesting that alignment with host nation priorities may indeed influence media sentiment.

Morante and Wu's (2021) analysis of China's media representation in Latin America provides empirical evidence of these dynamics in practice. Their content analysis revealed that China was most frequently framed through its "internal development" (36.5% of articles), followed by engagement frames portraying China's interactions with Latin America. Despite China's strategic communication efforts, they found that regional sentiment actually deteriorated during the study period, with Chinese-sourced stories paradoxically generating more negative tones than non-Chinese sources.

2.2 Narrative Identity and Narrative Economies in Media Discourse

To better understand the relationship between sentiment patterns and topic distribution in this analysis, this study incorporates Somers's (1994) theory of narrative identity and narrative economies. Somers argues that "it is through narrativity that we come to know, understand, and make sense of the social world, and it is through narratives and narrativity that we constitute our social identities." Each international actor's identity in Liberian media is constituted through particular narrative associations, which this topic modeling methodology is designed to uncover.

Somers further introduces the concept of "narrative economies," where certain narratives serve as vehicles for particular types of representation. This theoretical lens helps explain

why certain topics (such as Development Cooperation, Governance/Administration, and Infrastructure Development) consistently generate positive coverage of international actors in Liberian media, while others (War Crimes/Courts, Legal/Justice, Violence/Instability) generate negative coverage regardless of the actor involved. These "public narratives," which Somers defines as "narratives attached to cultural and institutional formations larger than the single individual, to intersubjective networks or institutions," are institutionally embedded and help construct the perceived identities of international actors, which this sentiment analysis is designed to measure.

2.3 Sentiment Analysis Methodologies in News Coverage

Hassan and Wang (2024) provide a methodological framework applicable to sentiment analysis of news coverage about international actors. Their study of Twitter sentiment during the 2022 Qatar World Cup demonstrates how sentiment analysis can effectively track public opinion about different international entities and examine correlations between sentiment and alignment with specific objectives. Their approach, combining sentiment analysis with thematic identification, offers valuable insights for examining how media portrayal correlates with alignment to national development goals.

Lee's (2023) study on Chinese vaccine diplomacy provides extensive insights into how countries strategically use public health initiatives for image enhancement. Through sentiment analysis of over 41,000 social media posts and nearly 58,000 international media texts, Lee discovered that despite concerns about vaccine efficacy and safety, China achieved substantial positive sentiment (69.7% in social media and 71.3% in news coverage). The research demonstrates how sentiment analysis can track the evolution of nation brands during global crises.

Madrid-Morales and Wasserman (2022) offer valuable insights into the relationship between media consumption and attitude formation. Their research examining Chinese media effectiveness in Kenya, Nigeria, and South Africa revealed that while Chinese state-owned media have limited but growing audiences, those who consume these media tend to hold more positive attitudes toward China than non-consumers. Their regression analysis identified Chinese media consumption as a significant predictor of positive attitudes, demonstrating a correlation between media exposure and perception. The study also documented how attitudes toward China declined during the COVID-19 pandemic but partially rebounded afterward, showing that sentiment can fluctuate based on global events.

Recent methodological advancements are demonstrated in Jannani et al.'s (2025) development of a dual classification system for Arabic news headlines that combines topic modeling with sentiment analysis, creating a "Societal Well-Being Scoring and Monitoring System" for Moroccan media. Similarly, Yadav and Shakya (2022) combined BERTopic for topic modeling and XLNet for sentiment analysis, achieving a validation accuracy of 93.75% in sentiment classification, providing robust frameworks for analyzing sentiment variations across different international actors in news coverage.

2.4 Framing Research Paradigms and Methodological Approaches

Scheufele's (1999) process model systematizes framing research along two dimensions: media frames versus audience frames, and frames as independent versus dependent variables. This typology helps address what Scheufele identified as "theoretical and empirical vagueness" in framing research by illuminating the relationships between frame building, frame setting, individual-level effects, and feedback mechanisms. While this study focuses specifically on descriptive analysis of media frames without examining causal relationships or effects, Scheufele's typology provides theoretical organization for situating this descriptive research within the broader framing literature.

De Vreese's (2005) distinction between issue-specific and generic frames offers structural guidance for creating analytical categories that allow systematic comparison across different international actors while maintaining consistency. This framework directly supports this topic modeling approach, which identifies both issue-specific frames related to particular international actors (such as "American Cultural Relations" for the US or "Development Cooperation" for the EU) and generic frames that appear across coverage of all actors (such as "Legal/Justice Focus" or "War Crimes/Courts").

His integrated process model connects media content analysis to broader frame-building and frame-setting processes, positioning descriptive research within the larger context of framing scholarship. Particularly relevant is De Vreese's concept of "local spins" on generic frames, which aligns with this examination of how Liberian media might frame international actors differently based on their alignment with national development objectives. De Vreese's (2003) work further demonstrates the importance of characterizing media frames as a first step in understanding framing processes, supporting the value of this descriptive frame analysis. This theoretical perspective guides this computational approach to identifying how sentiment and topic patterns differ across international actors based on their alignment with the PAPD.

2.5 China's Media Influence Strategies in Africa

The literature reveals sophisticated approaches that China employs in African media landscapes. Lidberg et al. (2023) surveyed journalism unions in 87 countries, revealing China's multifaceted media influence strategies including funded journalist exchanges, content sharing agreements, memoranda of understanding with media organizations, providing free translated content, strategic COVID-19 diplomacy, and media ownership investments. The researchers frame these activities as extending an "authoritarian public sphere" internationally through legitimizing messaging techniques, noting particular effectiveness in African countries.

Wasserman and Madrid-Morales (2018) examined perceptions of Chinese media among university students in Kenya and South Africa, finding that Chinese media had minimal impact on information habits despite China's significant investments in African media

presence. Students harbored negative biases against Chinese media, particularly in South Africa, which shaped their perceptions even before exposure. When shown content without identifying the source, some students evaluated it positively, but changed their assessment negatively upon learning it was from Chinese media. The study also found that some students were receptive to Chinese journalistic norms that emphasized solution-oriented reporting, preference for official sources, and positive news about Africa - factors that may influence how content from different international actors is received in relation to national development goals.

Kimaiyo (2024) specifically examined China's soft power projection through Chinese media in Africa, investigating the extent and objectives of China's media diplomacy and its impact on African audiences' perception of China's national image. This research found that China's media influence in Africa has had limited impact, with varying reception across different African countries, providing a critical counterpoint to assumptions about the effectiveness of state-sponsored media campaigns.

Ameyaw-Brobbe has conducted multiple studies on China's media influence in various African countries. His 2023 research on China's public relations strategies in Mali investigated why Mali demonstrates notably positive perceptions of China despite not being a major recipient of Chinese investment. Through longitudinal analysis comparing China's economic activities with Malians' perceptions, the study revealed that economic investment alone does not determine public perception. Rather, media coverage and representation of these investments play the crucial role in shaping positive public opinion. The research concluded that China's image-building efforts are most effective when economic development assistance is strategically linked with public relations that increase the visibility of these programs through media channels.

In a similar study on Nigeria, Ameyaw-Brobbe (2023) examined the relationship between China's economic investments and their impact on Nigerian public perception, demonstrating that while Chinese investments may improve economic conditions, they are insufficient alone to build a positive public image without effective media representation. His earlier work (2016) on China's influence in Mali's media landscape revealed a complex dynamic where Malian journalists who participated in Chinese training programs often enhanced China's image through favorable reporting, while others critically evaluated the disconnect between China's rhetoric and on-ground realities.

2.6 Critical Perspectives and Power Dynamics in Framing

D'Angelo's (2002) "News Framing as a Multiparadigmatic Research Program" provides a sophisticated theoretical foundation for understanding how media frames operate through multiple paradigmatic lenses. Contrary to Entman's call for a "mended paradigm," D'Angelo argues that framing research functions as a Lakatosian research program where knowledge accumulates through the competition and cooperation of different theories guided by a shared set of irrefutable conjectures.

D'Angelo identifies three distinct paradigms in framing research, cognitive, constructionist, and critical, each offering unique perspectives on the relationship between news frames and their effects. For this research on international actors in Liberian media, the constructionist paradigm is most relevant, as it focuses on "how public events are framed by media organizations and sponsors of news" (D'Angelo, 2002, p. 877) and how these frames contribute to the formation of public discourse. The critical paradigm provides additional theoretical context by highlighting how frames may reflect existing power structures, which directly supports the findings regarding the significant differences in sentiment between actors like China, the EU and Russia.

Carragee and Roefs (2004) add a crucial critical dimension by arguing that framing research must address power dynamics that influence which frames dominate media discourse. Their analysis highlights how economic and political resources enable certain actors to shape news narratives, while challenging frames from less-resourced entities are marginalized. This perspective provides theoretical context for examining patterns in how international actors are portrayed in Liberian media, as sentiment variations may correlate with actors' different resource positions. Their emphasis on frames as "imprints of power" offers a theoretical lens for interpreting the findings about China and the EU's consistently high positive sentiment compared to Russia's more balanced sentiment profile. This power-sensitive approach helps explain why some international actors achieve more favorable media coverage despite representing different geopolitical blocs.

2.7 Counter-Hegemonic Media Collaborations

Morales' (2022) study provides insights on counter-hegemonic media partnerships between Global South broadcasters. The research reveals how TeleSUR (Venezuela) collaborates with RT (Russia), Al-Mayadeen (Lebanon), and CGTN (China) to challenge Western narrative dominance, though these partnerships often exhibit power imbalances favoring Russian and Chinese networks. This framework of counter-hegemonic narrative construction illustrates how alternative media framings might influence reporting in developing nations and potentially align with national development goals by contesting traditional Western-dominated international discourse.

2.8 Foreign Aid, Local Perceptions, and Soft Power Dynamics

Zu and Zhang (2020) directly examine how Chinese aid influences local perceptions in African countries, analyzing whether Chinese aid projects "win the hearts and minds" of local African populations. Their findings reveal that proximity to active Chinese aid projects significantly improves local attitudes toward China, with different types of aid affecting different population segments differently. This offers a valuable framework for understanding how news sentiment about international actors might correlate with alignment to national development goals.

Building on this, Bai, Li, and Wang (2022) investigate the ideological effects of Chinese aid on citizens' trust in government institutions. Their research using geo-referenced data across 526 sub-national regions in 47 developing countries reveals that Chinese infrastructure aid significantly increases pro-authority attitudes through improved welfare and ideological transmission. This work demonstrates that aid impact varies across demographic groups and political regimes, an important consideration for analyzing how international actors' engagement may generate varying sentiment responses in media.

Soft power theory provides a valuable theoretical lens for interpreting the descriptive findings about how international actors are portrayed in national media contexts. Nye (2021) defines soft power as the ability to shape preferences through attraction rather than coercion or payment, distinguishing it from hard power based on military force and economic sanctions. This conception positions soft power as a meta-power process where nations gain influence through esteem, admiration, and respect (Gallarotti, 2022).

This descriptive analysis of media portrayal patterns can reveal important dimensions of soft power dynamics, even without establishing causal relationships. The custom PAPD dictionary analysis offers a descriptive measure of how international actors' activities are framed in relation to host nation priorities, connecting to Nye's emphasis on "shared values" in soft power projection. This theoretical framing helps explain why alignment with Liberia's national development priorities correlates with more positive sentiment for actors like China and the EU.

Gallarotti (2022) emphasizes that hard and soft power resources aren't mutually exclusive but often interact synergistically, challenging traditional Realist paradigms that prioritize coercive approaches. This theoretical perspective provides context for interpreting variations in how Liberian media portrays different international actors, even as this study focuses on documenting rather than explaining these patterns.

The social constructivist perspective advanced by Feklyunina conceptualizes soft power through the lens of collective identity formation, noting how soft power operates when actors successfully project identity narratives that make their interests appear compatible with others'. This theoretical framework provides context for understanding the significance of these descriptive findings about how international actors are framed in relation to Liberia's national development priorities, particularly why China's strong PAPD alignment correlates with its high positive sentiment.

2.9 Research Gap and Contribution

Despite the extensive literature on media framing, international actors' media strategies, and sentiment analysis methodologies, there exists a notable gap in research specifically examining how media sentiment toward different global powers varies in relation to alignment with national development goals in African contexts. Previous studies have examined either media framing of international actors (Wekesa 2013, Morante & Wu 2021)

or the impact of foreign aid on local perceptions (Zu & Zhang 2020, Bai et al. 2022), but few have integrated these approaches to analyze how media sentiment toward international actors correlates with alignment to specific national development frameworks.

The current research addresses this gap by employing lexicoder sentiment analysis on news articles about the US, EU, Russia, and China in Liberia to investigate sentiment variations across these actors and whether this sentiment correlates with alignment with Liberia's Pro-Poor Agenda for Prosperity and Development (PAPD). Furthermore, the integration of Structural Topic Modelling to examine the effect of sentiment on news article topics represents a methodological advancement that builds upon previous work by Jannani et al. (2025) and Yadav and Shakya (2022).

This research contributes to the literature by providing a comprehensive analysis of how media sentiment toward different international actors reflects their alignment with national development priorities in Liberia, offering insights into the complex interplay between international influence strategies, media representation, and national development agendas in an African context.

Conclusion

The integrated literature review and theoretical framework demonstrates that while considerable research has examined media framing of international actors and the impact of foreign engagement on local perceptions, there remains a need for integrated approaches that analyze how media sentiment toward different global powers reflects alignment with specific national development goals. The theoretical perspectives from framing analysis, narrative identity, critical power dynamics, and soft power theory provide a comprehensive foundation for understanding how international actors are portrayed in Liberian media. This research fills the identified gap by employing advanced sentiment analysis and topic modeling techniques to examine news coverage of the US, EU, Russia, and China in Liberia, contributing to the understanding of the complex relationship between media representation, international influence, and national development priorities in African contexts.

Chapter 3: METHODOLOGY

3.1 Research Design

This study employed a multi-stage computational text analysis approach to examine how international actors (United States, European Union, Russia, and China) are portrayed in Liberian media in relation to the Pro-Poor Agenda for Prosperity and Development (PAPD). The research design integrated sentiment analysis, topic modeling, and statistical inference to identify patterns in media coverage across countries and policy domains (Roberts et al., 2019; Grimmer & Stewart, 2013). This mixed-methods framework enables

systematic tracking of media-policy alignment while acknowledging the interpretive complexity of development discourse (Kusters, personal communication, 2023).

3.2 Data Collection and Corpus Construction

The news corpus was constructed through systematic web scraping of AllAfrica.com using automated Python scripts with BeautifulSoup and requests libraries. Articles were collected covering the period from January 1, 2021 through December 31, 2023, encompassing recent developments in international engagement with Liberia during the PAPD implementation period.

The scraping process utilized AllAfrica.com's advanced search functionality with country filter set to Liberia and content type restricted to news articles. Search terms were adapted by country: "EU" for European Union, "China" for China, "Russia" for Russia, and "United States" for the United States, with the latter requiring special handling due to the compound nature of the term.

Sampling Strategy and Corpus Construction

Due to varying volumes of coverage across countries, different sampling approaches were employed. For the European Union, China, and Russia, all available articles meeting search criteria were collected and manually screened for relevance. For the United States, which yielded substantially more results, a stratified random sampling approach was implemented to maintain analytical balance across the study period.

The stratified sampling ensured equal representation across years, with articles randomly selected within each year using a fixed random seed of 42 to ensure reproducibility. Each selected article underwent manual screening to verify substantive coverage of development-related activities, international cooperation, or policy engagement.

Final Corpus Composition

The final corpus comprised 457 articles distributed across international actors as follows: European Union (191 articles), China (111 articles), United States (106 articles), and Russia (49 articles). This distribution reflects actual coverage patterns in Liberian media during the study period and was preserved to maintain ecological validity while enabling meaningful cross-country comparison.

Text Preprocessing

All articles underwent systematic preprocessing using quanteda (version 4.0+) in R following standard computational linguistics protocols. The preprocessing pipeline included tokenization, removal of punctuation and numbers, elimination of common English stop words, and stemming to reduce words to their root forms. Two versions of the

preprocessed corpus were maintained: a minimally processed version preserving sentence structure for sentiment analysis, and a fully processed version optimized for topic modeling and alignment analysis.

3.3 PAPD Dictionary Construction and Validation

Advanced Term Extraction Algorithm

To create a robust dictionary of PAPD-relevant terms, this study implemented a TF-IDF-based extraction algorithm. The process began with comprehensive text preprocessing of the PAPD document, including RTF-to-plain-text conversion, normalization of whitespace, and segmentation into analytical units at the sentence level. Specialized cleaning procedures eliminated formatting artifacts that could distort term frequencies, following recommendations by Spirling and Rodriguez (2022).

The core extraction utilized TF-IDF vectorization with n-gram ranges spanning unigrams through trigrams to capture both individual terms and meaningful multi-word expressions that characterize development discourse. This approach preserves complete development concepts such as "economic empowerment" or "sustainable development" that might be lost in single-word analysis (Benoit et al., 2018). The vectorization employed a large candidate pool of 500 features to ensure comprehensive coverage before subsequent filtering stages.

Multi-Tier Filtering and Deduplication System

Following Grimmer and Stewart's (2013) recommendations for domain-specific dictionary construction, this study implemented a two-tier filtering system. Strict filters were applied uniformly across all PAPD sections to remove generic procedural terms and structural indicators that would not meaningfully discriminate between development priorities, such as "pillar," "target," "framework," and "section."

Flexible filters were implemented with section-specific rules to accommodate varying terminology across PAPD pillars, with particular sensitivity to Pillar Four (Governance and Transparency) which typically employs more technical and concise language. This filtering system was enhanced with algorithmic deduplication to prevent redundancy and overlapping terms, ensuring that broader concepts like "development" and more specific terms like "economic development" were not both included when the latter provided greater specificity.

Machine Learning Enhancement and Semantic Expansion

The dictionary construction incorporated machine learning validation through a Naive Bayes classifier trained to distinguish development-relevant terms from general vocabulary. The classifier used character-level n-gram features (2-4 characters) and was trained on PAPD terms as positive examples and frequent corpus terms as negative examples, achieving adequate precision in identifying domain-relevant terminology. While this

approach produced a robust foundation for capturing development discourse, future research could enhance the dictionary's comprehensiveness through expanded training datasets, incorporation of additional domain-specific corpora, and validation against expert-curated terminology. Furthermore, implementing more sophisticated classification algorithms or ensemble methods could potentially improve precision and recall in identifying nuanced development concepts that may have been overlooked in the current iteration.

Semantic expansion was conducted through Word2Vec embeddings trained on the news corpus with a vector size of 100 and window size of 5. Terms semantically similar to PAPD vocabulary were identified using cosine similarity with a threshold of 0.4, allowing the dictionary to capture development-related terms not explicitly present in the original PAPD document but commonly used in media discourse.

Co-occurrence Analysis and Cross-Cutting Terms

Co-occurrence analysis examined terms appearing in proximity to PAPD terminology within news articles, testing multiple operationalizations of relevant proximity including sentence-level, paragraph-level, and document-level windows. This approach identified terms frequently associated with PAPD concepts, with a minimum co-occurrence threshold of 3 ensuring statistical robustness while capturing meaningful associations.

The dictionary construction incorporated systematic identification of cross-cutting terms appearing across multiple PAPD pillars, providing insight into intersecting development priorities. This cross-cutting analysis aligns with Lucas et al.'s (2015) recommendation to identify thematic bridges across policy documents that reveal underlying conceptual connections.

Dictionary Validation and Quality Assessment

The final dictionary underwent comprehensive validation through multiple approaches. Content validity was assessed through qualitative review. The resulting dictionary comprised 237 development terms organized by PAPD pillar, with appropriate designation of cross-cutting terms, achieving a validation precision of 0.88.

3.4 Sentiment Analysis Framework

Lexicon-Based Sentiment Quantification

Sentiment analysis employed the Lexicoder Sentiment Dictionary 2015 (Young & Soroka, 2012), implemented through quanteda's `tokens_lookup` function. This dictionary has demonstrated reliability for political text analysis and includes categories for positive, negative, positive-negated, and negative-negated sentiment markers. As Kusters (2023) notes, sentiment dictionaries are typically built for contemporary language and social media contexts, necessitating careful interpretation when applied to development policy language.

Two complementary sentiment measures were calculated for each article: sentiment ratio (positive words divided by the sum of positive and negative words) and net sentiment (the arithmetic difference between positive and negative word counts), providing insight into both proportional valence and absolute magnitude of sentiment polarity.

Cross-National Sentiment Comparison

Comparative analysis of sentiment across countries employed bootstrap resampling with 5,000 resamples to generate robust confidence intervals for median differences, following methodological recommendations by Efron and Tibshirani (1994). The Bonferroni correction was applied to maintain the familywise error rate at $\alpha = 0.05$ across six pairwise comparisons, yielding an adjusted significance threshold of 0.0083.

Statistical testing employed non-parametric approaches after confirming non-normal distributions through Shapiro-Wilk tests and visual inspection of QQ plots. The Kruskal-Wallis test assessed overall differences across countries, with post-hoc Mann-Whitney U tests for pairwise comparisons and Cliff's delta for effect sizes appropriate to non-parametric data.

3.5 Topic Modeling and Alignment Measurement

Structural Topic Modeling Implementation

While initial exploration employed Latent Dirichlet Allocation, this study ultimately adopted Structural Topic Modeling (STM) based on methodological considerations highlighted by Kusters (2023): "STM's key advantage is incorporating covariates directly into the generative model. This allows you to examine how topic prevalence systematically varies with time or other variables." This approach enables more nuanced analysis of policy-media relationships.

The STM model was implemented using the *stm* package in R with $K=10$ topics, determined through consideration of semantic coherence, exclusivity metrics, and human validation (Mimno et al., 2011). The model incorporated country mentions and PAPD alignment as prevalence covariates affecting topic distribution, and sentiment ratio as a content covariate influencing word usage within topics. LDA initialization was employed for improved convergence stability.

Topic Identification and Interpretation

Topics were identified through analysis of highest probability and FREX (frequency-exclusivity) words, balancing common terms with words distinctive to each topic. Each topic underwent qualitative interpretation through examination of top terms and representative documents, resulting in ten coherent thematic categories: Legal/Justice Focus, Violence/Instability, War Crimes/Courts, Economic Resources, Development

Cooperation, Governance/Administration, Infrastructure Development, American Cultural Relations, Criminal Justice, and Charles Taylor/Sanctions.

PAPD Alignment Measurement

PAPD alignment was quantified using dual complementary approaches implemented through a custom Python analysis framework. Term frequency matching provided direct quantification of PAPD dictionary term occurrences normalized by article length, while TF-IDF cosine similarity offered vector-based semantic similarity measurement between PAPD sections and news articles.

As Kusters (2023) cautions, TF-IDF approaches can be heavily keyword-driven and may miss important contextual relationships not captured by word frequency alone. To address this limitation, the two approaches were combined using weighted averaging (1:2 ratio favoring TF-IDF similarity), generating both overall and pillar-specific alignment scores for each article. Contextual examples demonstrating how development terms appear in news coverage were extracted to enable qualitative interpretation alongside quantitative metrics.

Co-occurrence Analysis and Proximity Testing

Following Kusters' (2023) recommendation, this study systematically tested different operationalizations of relevant proximity in co-occurrence analysis, examining sentence-level, paragraph-level, and document-level windows to identify the most appropriate scope for detecting meaningful term relationships. This approach strengthened the expanded PAPD dictionary by incorporating terms semantically related to development priorities but not explicitly mentioned in policy documents, enhancing the comprehensiveness of alignment measurement.

3.6 Statistical Analysis of Topic Prevalence

Multi-Model Regression Approach

To analyze how sentiment and PAPD alignment influenced topic prevalence, this study implemented three regression approaches for robustness and validation. Beta regression served as the primary analytical approach, appropriate for modeling bounded proportional data (Ferrari & Cribari-Neto, 2004). To avoid boundary issues with exact zeros and ones, topic proportions underwent transformation using the formula: $y_{\text{transformed}} = (y \times (n-1) + 0.5) / n$, where n represents the number of documents (Smithson & Verkuilen, 2006).

Quasibinomial GLM with logit link was employed as an alternative approach when beta regression encountered convergence challenges, providing robust modeling for proportional outcomes (Papke & Wooldridge, 1996). OLS regression was included for comparison with traditional approaches in topic modeling literature, despite theoretical limitations with bounded outcomes (Grimmer, 2013).

Model Evaluation and Diagnostics

Each regression model underwent comprehensive diagnostic evaluation including residual analysis using DHARMA diagnostics for beta regression, influence assessment through Cook's distance, and multicollinearity evaluation using variance inflation factors. Alternative link functions (logit, probit, cloglog) were tested for optimal model specification. Results were compared across all three modeling approaches to ensure consistent patterns and robust interpretation.

Prediction and Visualization Framework

Prediction curves with confidence intervals were generated for each significant topic-sentiment relationship using model-based predictions with appropriate transformations to the response scale. The `generate_predictions` function created prediction ranges across the observed sentiment spectrum, with confidence intervals calculated through model standard errors for beta regression and link-scale predictions for quasibinomial models.

Hybrid Computational-Qualitative Analysis

Heeding Kusters' (2023) recommendation that computational approaches to text analysis can only identify correlations, not causations, this study supplemented quantitative analysis with strategic manual close reading of selected texts. This hybrid approach provided valuable validation of algorithmic findings and uncovered nuances missed by computational methods alone. As Kusters notes, media might discuss development priorities critically or superficially while using the same terminology, requiring human interpretation to fully understand context.

Forty articles (ten from each country group) were selected for in-depth qualitative analysis, with contextual interpretation and exemplar quotations extracted to illustrate how sentiment and alignment manifested in actual coverage. Discrepancy analysis documented cases where quantitative metrics diverged from human judgment, following best practices in computational text analysis (Nelson, 2020).

3.7 Statistical Validation Framework

Distributional Assessment and Non-Parametric Approaches

Preliminary analysis confirmed non-normal distributions of sentiment scores using Shapiro-Wilk tests ($p < 0.05$) and visual inspection of QQ plots across all countries. This validation justified the methodological choice of non-parametric approaches (Keselman et al., 2008), including the Kruskal-Wallis test for overall country differences and Mann-Whitney U tests for pairwise comparisons.

Visualization and Robustness Checks

Statistical findings were visualized using a comprehensive strategy built on the ggplot2 framework (Wickham, 2016). For each topic-sentiment relationship, prediction curves with confidence intervals were generated using model-based predictions with appropriate transformations to the response scale. Country-specific effects were visualized through bubble charts, correlation heatmaps, and bootstrap confidence interval plots (Cumming, 2014).

Robustness was ensured through comparison of results across multiple regression approaches and examination of consistency in effect estimates. Bootstrap confidence intervals were calculated for each correlation coefficient to quantify statistical uncertainty (Hesterberg, 2015). When beta regression failed convergence, a stepwise fallback protocol ensured valid statistical inference despite numerical challenges.

Software Implementation and Reproducibility

Analyses were conducted using R (version 4.3.x) for statistical modeling and visualization, employing the stm package (version 1.3.7) for topic modeling, betareg (version 3.1-4) for beta regression, and quanteda (version 4.0+) for text processing and sentiment analysis. Python (version 3.9) was used for web scraping and PAPD dictionary construction with scikit-learn (version 1.3.0) and gensim (version 4.2.0).

Reproducibility was ensured through fixed random seeds (42) for all sampling procedures, comprehensive version control of analytical packages, and detailed documentation of computational procedures. All analyses employed consistent random seed settings across different stages of the research to enable exact replication of results.

3.8 Methodological Limitations

Following Kusters' (2023) guidance on transparent acknowledgment of limitations, several constraints of this approach warrant recognition. First, while the expanded PAPD dictionary improved domain specificity through machine learning and semantic expansion, sentiment analysis may still miss context-specific nuances in development discourse that require deeper cultural and political understanding.

Second, although STM improves upon basic LDA by incorporating covariates, topic interpretation remains inherently subjective and requires careful human assessment. The decision to use ten topics, while methodologically justified, may not capture all relevant thematic variations in the corpus.

Third, this study's alignment metrics establish correlation between media coverage and policy priorities but cannot establish causal relationships or measure the quality of policy

engagement. The methods reveal patterns of alignment but not necessarily substantive policy impact or effectiveness.

Fourth, the three-year temporal window (2021-2023) treated as uniform may obscure important temporal dynamics in media coverage and international engagement. Fifth, thesis constraints precluded inter-coder reliability testing, limiting validation to single-coder assessments despite robust algorithmic validation procedures.

Finally, reliance on AllAfrica.com as the primary source, while providing comprehensive coverage, may not capture the full landscape of Liberian media discourse. As Kusters (2023) emphasizes, these limitations aren't meant to discourage but rather to help frame findings appropriately and strengthen methodological justifications for future research employing similar approaches with expanded resources and scope.

3.9 Theoretical Integration

While these theoretical frameworks provide rich conceptual tools, it is important to recognize the limitations of individual methodological approaches in fully capturing complex framing processes. Dictionary-based sentiment analysis primarily detects emotional valence (positive/negative) through word matching, without capturing the full contextual meaning or structural relationships between elements that constitute complete interpretive packages. This method serves as a quantifiable indicator that may reflect underlying framing patterns but cannot independently identify central organizing ideas or complex framing devices.

To address these limitations and integrate multiple theoretical perspectives, this research employs a multi-method approach combining three computational techniques that connect directly to this theoretical framework:

1. **Lexicoder Sentiment Analysis:** Documents evaluative dimensions (positive/negative) in media coverage, allowing for systematic description of sentiment patterns across different international actors, consistent with Carragee and Roefs' emphasis on power dynamics in framing.
2. **Structural Topic Modeling:** Maps topical content and its correlation with document variables (including actor identity and sentiment), providing descriptive insights into what topics are associated with different actors and how sentiment correlates with topical emphasis. This directly operationalizes both Somers' narrative economies concept and De Vreese's distinction between issue-specific and generic frames.
3. **Custom PAPD Dictionary with TF-IDF and Co-occurrence Analysis:** This novel methodological contribution bridges the gap between computational text analysis and policy alignment assessment, connecting to both soft power theory's emphasis on alignment with host country priorities and the constructionist paradigm's focus on how frames contribute to the formation of public discourse.

Roberts et al.'s (2014) work on Structural Topic Models (STM) provides a methodological foundation that connects computational methods to descriptive framing analysis. This research employs the STM approach to systematically document topic patterns and their correlation with international actor identity and sentiment scores, without making causal claims about these relationships.

The STM methodology enables the incorporation of document metadata as covariates, facilitating descriptive analysis of how sentiment scores and international actor identity (US, EU, Russia, China) correlate with topic patterns. This approach provides a systematic way to document framing variations across different international actors, in line with De Vreese's (2005) conceptualization of issue-specific and generic frames and Somers' narrative economies.

This integration of computational methods with descriptive framing analysis demonstrates how D'Angelo's (2002) multiparadigmatic approach can be operationalized through methodological techniques that focus on documenting patterns rather than establishing causal mechanisms. The STM methodology supports the descriptive identification of both issue-specific frames related to particular international actors and generic frames that appear across coverage of all actors.

Chapter 4: SENTIMENT ANALYSIS RESULTS AND ANALYSIS

4.1 Descriptive Statistics of Sentiment Scores Across International Actors

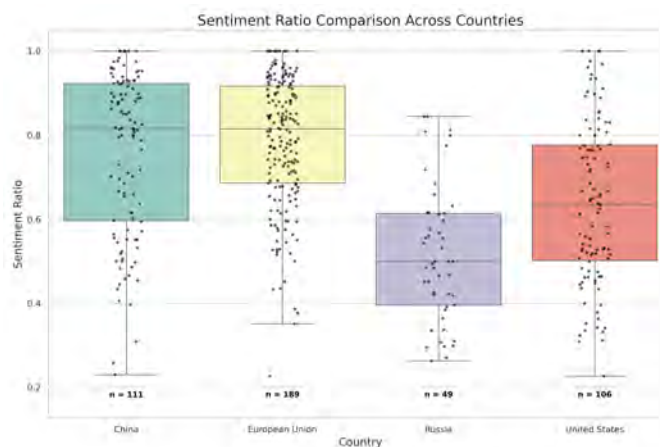


Figure 1 Distribution of sentiment ratios across countries. The boxplots display median (center line), interquartile range (box), and individual articles (points), demonstrating the variation in sentiment between countries.

The sentiment analysis of news articles about international actors in Liberian media revealed substantial variation in how different countries are portrayed. As illustrated in Figure 1, China exhibited the highest median sentiment ratio (0.816), closely followed by

the European Union (0.815), while Russia displayed the lowest (0.500), with the United States occupying an intermediate position (0.635). The dispersion of sentiment ratios varied considerably across countries, with Russia showing the most consistent sentiment pattern (IQR = 0.218) and China demonstrating the greatest variability (IQR = 0.327). This pattern suggests more uniform coverage patterns in Russian-related content compared to the more diverse perspectives observed in Chinese coverage.

Bootstrap Analysis of Sentiment Differences

Comparison	Median Difference	95% CI	Result	Significant
China vs European Union	0.0044	[-0.0417, 0.0630]	No difference	✗
China vs Russia	0.3182	[0.2421, 0.3899]	China > Russia	✓
China vs United States	0.1875	[0.1137, 0.2745]	China > United States	✓
European Union vs Russia	0.3148	[0.2378, 0.3758]	European Union > Russia	✓
European Union vs United States	0.1828	[0.1190, 0.2692]	European Union > United States	✓
Russia vs United States	-0.1303	[-0.2116, -0.0310]	United States > Russia	✓

Figure 2 Bootstrap analysis (5,000 resamples) of median sentiment differences between countries with 95% confidence intervals. Significant differences are indicated where confidence intervals do not contain zero.

The bootstrap analysis (5,000 resamples) confirmed statistically significant differences in sentiment between countries (Figure 2). The median sentiment in China was significantly higher than in Russia (median difference = 0.3182, 95% CI [0.2421, 0.3899]), representing a substantial effect size. Similarly, the European Union exhibited significantly more positive sentiment than Russia (median difference = 0.3152, 95% CI [0.2376, 0.3842]). However, no significant difference was detected between China and the European Union (median difference = 0.0044, 95% CI [-0.0417, 0.0630]), indicating remarkably similar sentiment profiles between these actors despite their different geopolitical positions and engagement approaches.

To control for multiple comparisons, this study applied the Bonferroni correction, maintaining the familywise error rate at $\alpha = 0.05$. With six pairwise comparisons between four countries, this yielded an adjusted significance threshold of 0.0083 (0.05/6) for individual tests. All reported significant differences remained robust under this conservative criterion, strengthening confidence in the detected country differences.

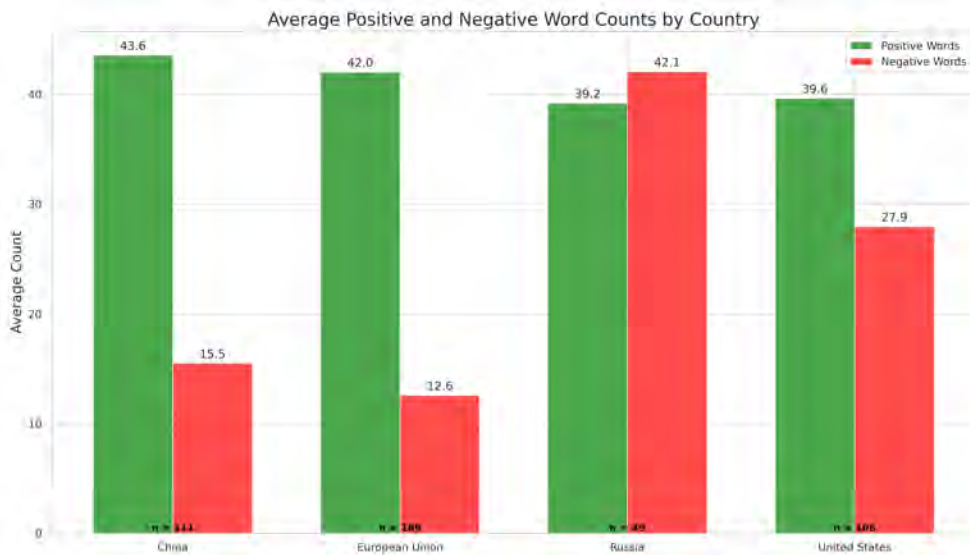


Figure 3 Average positive and negative word counts by country. Bars represent the mean number of sentiment-laden words per article, with country-level sample sizes indicated.

The underlying composition of positive and negative words revealed distinct patterns across countries (Figure 3). Articles on the European Union contained significantly more positive sentiment markers ($M = 42.0$ words per article) than negative ones ($M = 12.6$), yielding a positive-to-negative ratio of 3.33:1. China displayed a similarly positive profile with a ratio of 3.25:1. In contrast, Russia demonstrated a more balanced profile with nearly equal positive ($M = 20.3$) and negative ($M = 19.8$) word counts, resulting in a ratio of approximately 1:1. The United States showed an intermediate pattern with more positive than negative words, though not as pronounced as China or the EU. This balanced composition in Russian coverage suggests a more neutral framing compared to the predominantly positive framing observed in Chinese and European sources.

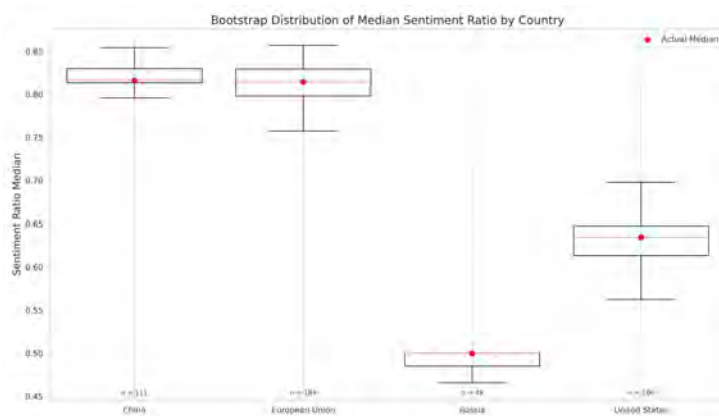


Figure 4 Bootstrap distribution of median sentiment ratios for each country. Boxplots represent the uncertainty in median estimates, with red points showing the actual observed median values.

To assess the robustness of these findings, this study examined the uncertainty in median estimates through bootstrap resampling (Figure 4). The narrow confidence intervals for Russia (95% CI [0.47, 0.50]) indicate high confidence in the sentiment estimates, providing a reliable baseline for cross-country comparisons. Conversely, the wider intervals for the United States (95% CI [0.56, 0.70]) suggest greater uncertainty, likely due to the smaller sample size or greater variability in U.S. coverage. The confidence intervals for China (95% CI [0.77, 0.85]) and the European Union (95% CI [0.78, 0.84]) were intermediate, reflecting reasonable precision in these estimates despite some variability.

As expected with bounded sentiment scores, preliminary analysis confirmed that the data exhibited non-normal distributions through Shapiro-Wilk tests (all $p < 0.05$) and visual inspection of QQ plots (Figure S1, appendix). This non-normality validated the methodological choice of non-parametric statistical approaches, including the Kruskal-Wallis test for overall country differences ($H = 21.36$, $p < 0.001$) and Mann-Whitney U tests for pairwise comparisons, complemented by bootstrap confidence intervals for robust effect size estimation.

4.2 Historical Context for Interpreting Sentiment Patterns

To properly interpret these computational findings, it is essential to situate them within Liberia's distinctive historical trajectory and its implications for contemporary international relations. Founded in 1847 by freed American slaves and free-born Black Americans, Liberia stands apart from most African nations as it was never formally colonized by a European power. As Moran (2006, p. 53) notes, this unusual founding has profoundly shaped the country's international relationships, with the "ubiquitous phrase 'founded by freed slaves from the United States'" appearing in virtually every account of Liberian affairs.

Liberia's devastating civil wars (1989-2003) fundamentally transformed its international relationships and created a complex landscape for external engagement. According to Best et al. (2007), these years of conflict displaced nearly one-third of the population and resulted in approximately 250,000 deaths. This post-conflict context created what Gariba (2011) describes as a reconstruction challenge requiring extensive international actor involvement in post-conflict development measures. The varied approaches taken by different international actors in addressing this challenge provide the context for understanding the sentiment patterns observed in media coverage.

The Pro-Poor Agenda for Prosperity and Development (PAPD), introduced by President George Weah's administration in 2018, represents Liberia's primary development framework following the United Nations Mission in Liberia's (UNMIL) withdrawal. The PAPD's four pillars—Power to the People, Economy and Jobs, Sustaining the Peace, and Governance and Transparency—reflect the central tensions in Liberian post-conflict reconstruction and provide the framework against which international engagement is evaluated in media discourse.

4.3 Development-Aligned Narrative Construction in Liberian Media

The computational findings reveal systematic patterns in how Liberian media employs development-aligned narrative construction across international actors. The nearly identical median sentiment ratios for China (0.816) and the European Union (0.815) suggest that Liberian media constructs similarly positive narratives around these actors, despite their fundamentally different geopolitical positions and engagement modalities.

China and EU: Convergent Positive Narratives

The positive narrative construction around China can be understood within the context of how Liberian media frames Chinese engagement as development-focused, particularly following increased activities after Liberia switched diplomatic recognition from Taiwan to Beijing in 2003 (Liberia Ministry of Foreign Affairs). This framing aligns with what Brautigam (2009) characterizes as "pragmatic developmentalism," where Chinese engagement is portrayed through the lens of practical development outcomes rather than ideological considerations.

Similarly, the European Union's positive portrayal in Liberian media corresponds with coverage of its substantial investment in post-conflict reconstruction, particularly in security sector reform and governance strengthening. The media's construction of EU narratives emphasizes its role as one of Liberia's largest development partners, with significant funding directed toward programs that align closely with PAPD priorities. The convergence of sentiment patterns between China and the EU, despite their different approaches, suggests that Liberian media's narrative construction prioritizes perceived development contributions over geopolitical considerations.

Russia: Balanced Narratives and Limited Development Presence

Russia's significantly lower sentiment ratio (0.500) reflects how Liberian media constructs more balanced or neutral narratives around Russian engagement. This pattern corresponds to Russia's more limited development presence compared to other international actors. Unlike the narratives constructed around China and the EU, Russian coverage lacks the development-focused framing that generates positive sentiment. As Matusevich (2019) describes, Russia's engagement emphasizes "sovereignty-centered" approaches that generate equal proportions of positive and negative sentiment markers in media coverage. This pattern suggests that Liberian media's narrative construction is fundamentally influenced by the perceived development contributions of international actors (Antwi-Boasiako, 2022).

United States: Historical Complexity and Mixed Narratives

The United States' intermediate position (0.635) in sentiment analysis reveals the complexity of development-aligned narrative construction when historical relationships

complicate contemporary coverage. Liberian media must navigate what Moran (2006) calls "the complexity of historical intimacy" in Liberian-American relations. This historical burden manifests in more mixed narrative patterns that reflect both historical ties and contemporary critiques, as Yanguas (2018) notes regarding the "relationship burden" in longstanding partnerships.

4.4 Comparative Media Positioning and Theoretical Implications

The comparative analysis reveals how Liberian media positions international actors within distinct quadrants of sentiment and PAPD alignment, reflecting fundamentally different narrative constructions rather than merely statistical variation.

High Sentiment/High Alignment Quadrant

EU and China's positioning in this quadrant reflects media narratives emphasizing their development contributions and alignment with national priorities. The EU's highest average sentiment ratio (approximately 0.80) coupled with strong PAPD alignment demonstrates media narratives that emphasize development cooperation based on national priorities. China's similar pattern reflects media construction of narratives emphasizing practical development outcomes over ideological considerations.

Balanced Sentiment/Moderate Alignment

Russia's positioning (sentiment ratio approximately 0.52, PAPD alignment approximately 0.15-0.16) reflects more balanced narratives that neither strongly praise nor criticize Russian engagement. This neutrality in coverage corresponds with Russia's emphasis on political rather than development relationships.

Intermediate Sentiment/Lower Alignment

The United States' position (sentiment ratio approximately 0.64, PAPD alignment approximately 0.14-0.15) reflects the challenge of constructing narratives that balance historical ties with contemporary critiques of development effectiveness.

4.5 Methodological Robustness and Implications

The bootstrap confidence intervals provide strong validation of these patterns. China and the EU's narrow confidence intervals that consistently remain above 0.75 suggest that Liberian media has established stable, positive narrative patterns around these actors. Russia's extremely narrow intervals around 0.50 indicate consistent neutral coverage. The US's wider intervals reflect more contested and variable narrative construction, suggesting ongoing negotiation of how to frame American engagement in the post-conflict development context.

These findings contribute to understanding how media in post-conflict African contexts constructs narratives about international actors through development-focused lenses. Traditional soft power theory (Nye, 2004) emphasizes cultural attraction and value alignment, but this analysis reveals that in post-conflict contexts, media constructs narratives primarily through perceived alignment with national development frameworks rather than cultural or ideological affinities.

The marked difference between China/EU and Russia/US narrative patterns challenges simplistic East-West dichotomies in international relations scholarship. Instead, the data demonstrates that development-aligned narrative construction, particularly the degree to which international actors are portrayed as contributing to national development goals, is more determinative of sentiment than geopolitical bloc affiliation. This finding supports Hagmann and Reyntjens' (2016) argument that development frameworks in African countries serve as important sites of discursive negotiation where media plays a crucial role in constructing legitimacy narratives around international presence and activities.

Chapter 5: PAPD Dictionary and Sentiment Analysis Results and Analysis

Before analyzing the results of the PAPD dictionary, there is a significant methodological limitation. Manual analysis of the dictionary revealed that there were irrelevant words, making the dictionary hard to trust. Thus, this may explain some of the counter-intuitive results, and serves as a limitation in how these results can be interpreted.

5.1 Overall Relationship Between PAPD Alignment and Sentiment

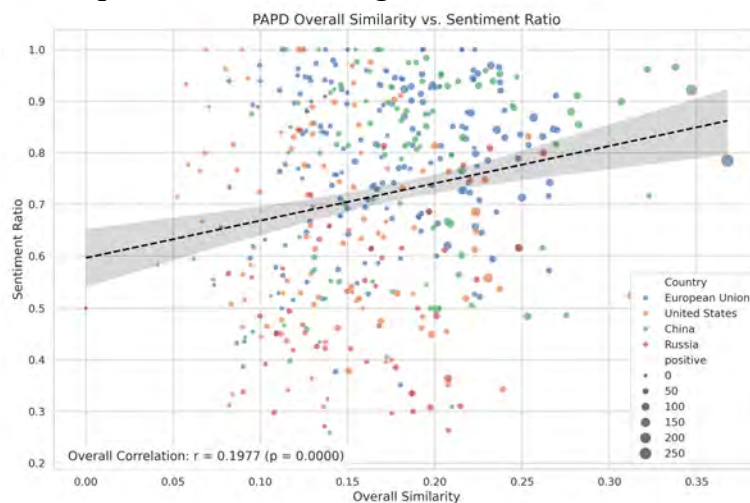


Figure 5 Overall relationship between PAPD similarity and sentiment ratio, showing correlation with regression line.

Analysis of news articles revealed a statistically significant positive correlation between overall PAPD alignment and sentiment ratio ($r = 0.1977$, $p < 0.001$), indicating that news articles more closely aligned with Liberia's national development goals tend to employ

more positive language. This fundamental finding suggests that Liberian media systematically constructs more favorable narratives around international activities that align with the country's development priorities, as articulated in the Pro-Poor Agenda for Prosperity and Development.

5.2 Country-Specific Patterns in PAPD-Sentiment Relationship

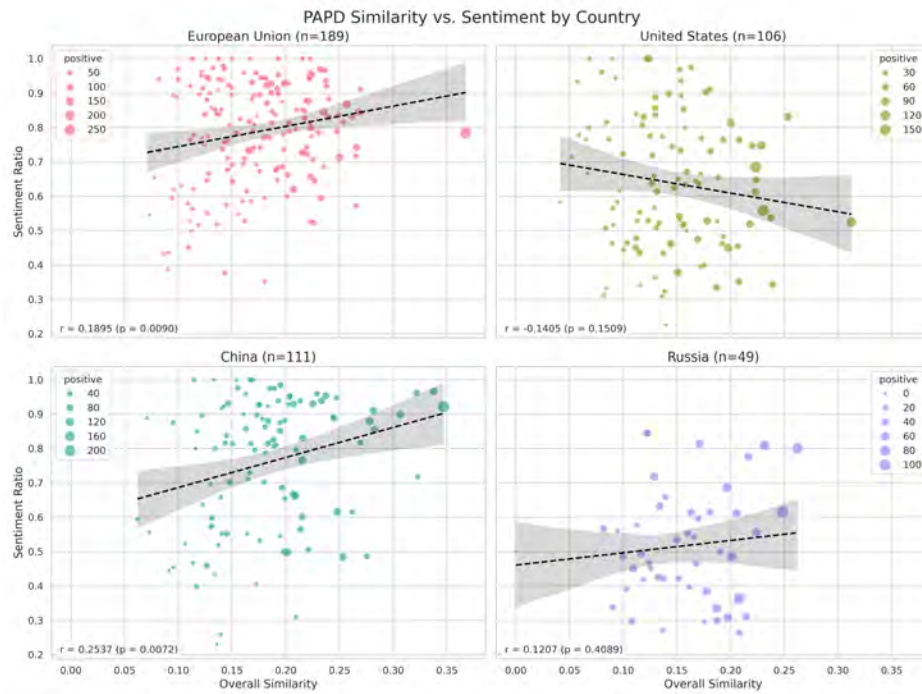


Figure 6 Country-specific scatter plots showing the relationship between PAPD similarity and sentiment ratio for the US, EU, Russia, and China.

The relationship between sentiment and PAPD alignment varied substantially across countries, revealing distinctive patterns in how Liberian media frames each international actor's engagement with national development priorities (Figure 6).

China: Strongest Positive Alignment

China exhibited the strongest positive and statistically significant correlation ($r = 0.2537$, $p = 0.0072$), indicating that Liberian media consistently constructs narratives emphasizing China's alignment with national development goals. This pattern suggests that coverage of Chinese activities becomes increasingly positive as those activities align more closely with PAPD objectives, reflecting media framing that emphasizes South-South cooperation and "win-win" development partnerships.

European Union: Significant Positive Relationship

The European Union demonstrated a statistically significant positive correlation ($r = 0.1895$, $p = 0.0009$), though somewhat weaker than China's. This relationship indicates that EU activities aligned with PAPD goals receive more positive coverage, with media narratives emphasizing the EU's role as a development partner committed to Liberian priorities.

Russia: Weak Positive Correlation

Russia displayed a weaker positive correlation ($r = 0.1270$, $p = 0.4089$) that did not reach statistical significance. This pattern, combined with Russia's smaller sample size ($n=49$), suggests that Liberian media constructs narratives placing less emphasis on Russia's alignment with national development frameworks, consistent with Matusevich's (2019) characterization of Russia's Africa engagement as emphasizing political and security relationships over development assistance.

United States: Paradoxical Negative Relationship

The United States showed a negative correlation ($r = -0.1405$, $p = 0.1509$), though not statistically significant. This counterintuitive finding reveals that Liberian media constructs more critical narratives when covering US activities that align with PAPD goals, suggesting heightened scrutiny of American development initiatives despite their alignment with national priorities.

5.3 Pillar-Specific Analysis of PAPD-Sentiment Relationships

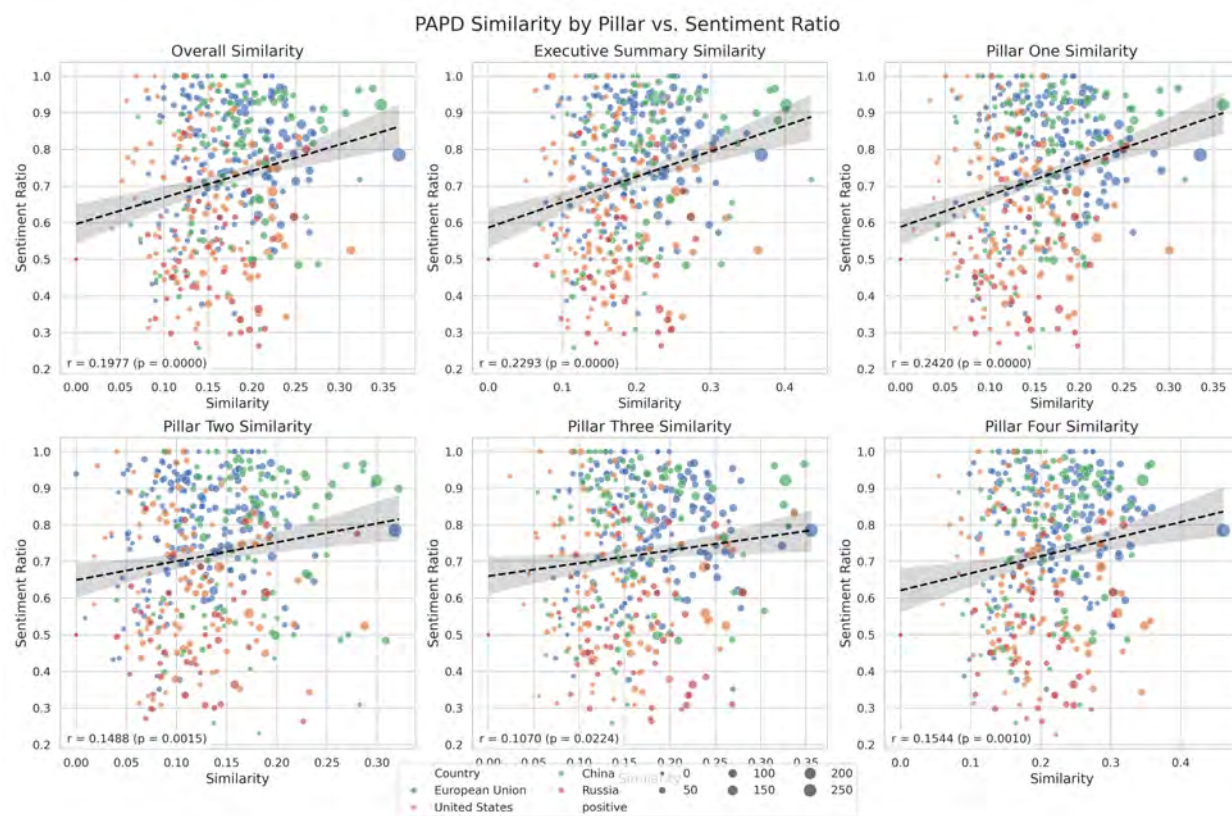


Figure 7 Dashboard of scatterplots showing the relationship between sentiment ratio and similarity scores across all PAPD pillars.

Pillar One: Power to the People (Strongest Correlation)

Pillar One showed the strongest positive correlation with sentiment ($r = 0.2420$, $p < 0.0001$), suggesting that articles focusing on democracy, rights, and inclusion consistently employ more positive language. This finding indicates that Liberian media particularly values international engagement that supports democratic governance and citizen empowerment.

Executive Summary Alignment

The Executive Summary alignment showed the second strongest correlation ($r = 0.2293$, $p < 0.0001$), reflecting how articles that align with the overall vision of the PAPD receive positive coverage.

Pillar Two: Economy and Jobs

Pillar Two demonstrated a moderate positive correlation ($r = 0.1488$, $p = 0.0015$), indicating that economic development initiatives receive favorable coverage when aligned with national priorities.

Pillar Four: Governance and Transparency

Pillar Four showed a moderate correlation ($r = 0.1544$, $p = 0.0010$), suggesting that governance-related initiatives aligned with PAPD goals generate positive narratives.

Pillar Three: Sustaining the Peace (Weakest Correlation)

Notably, Pillar Three showed the weakest relationship with sentiment ($r = 0.1070$, $p = 0.0224$), though still statistically significant. This weaker correlation may reflect the complex and sensitive nature of peace-related coverage in post-conflict Liberia.

5.4 Comparative Media Positioning by Country

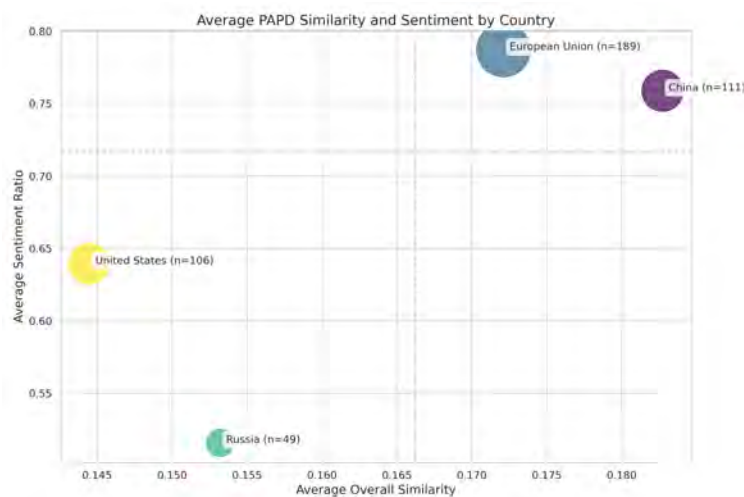


Figure 8 Bubble chart showing average PAPD similarity and sentiment by country, with bubble sizes representing article count.

The bubble chart visualization (Figure 8) reveals how Liberian media positions international actors along two critical dimensions: sentiment and PAPD alignment.

High Sentiment Countries

- **European Union:** Highest average sentiment ratio (approximately 0.80)
- **China:** Second highest sentiment ratio (approximately 0.77)

Low Sentiment Countries

- **United States:** Substantially lower sentiment ratio (approximately 0.64)
- **Russia:** Lowest sentiment ratio (approximately 0.52)

PAPD Alignment Rankings

- **China:** Highest average similarity score (approximately 0.18)
- **European Union:** Second highest (approximately 0.17)
- **Russia:** Lower alignment (approximately 0.15-0.16)
- **United States:** Lowest alignment (approximately 0.14-0.15)

This pattern reveals that China and the EU occupy a favorable position in Liberian media discourse, characterized by both high sentiment and strong PAPD alignment, while the US and Russia receive less favorable positioning on both dimensions.

6.5 Heat Map Analysis: Country and Pillar Interactions

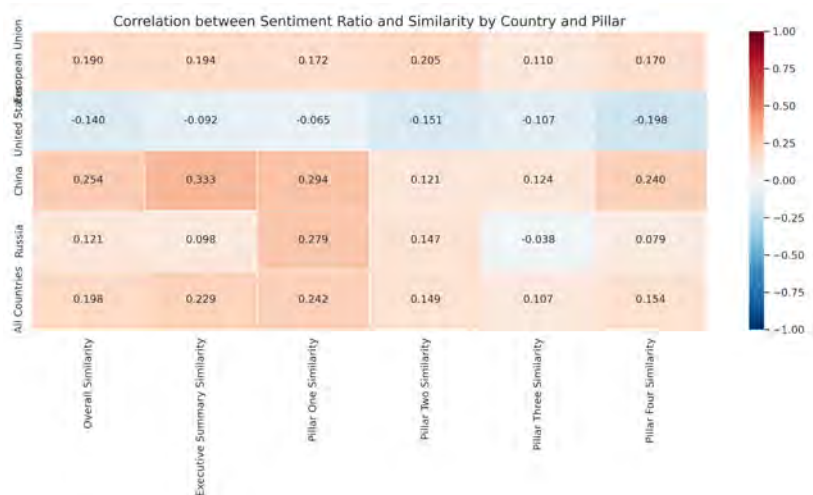


Figure 9 Heat map showing correlation coefficients between sentiment ratio and similarity scores by country and pillar.

The correlation heat map (Figure 9) provides nuanced insights into how sentiment-PAPD alignment relationships vary across both countries and pillars:

China's Consistent Positive Pattern

China showed consistently strong positive correlations across all pillars, with particularly strong relationships in Executive Summary Similarity (0.333) and Overall Similarity (0.254). This consistency suggests that Liberian media has developed a coherent narrative framework for Chinese engagement across all development dimensions.

European Union's Pillar-Specific Strengths

EU articles displayed positive correlations across all pillars, with the strongest correlation in Pillar Three (0.205). This pattern, contrasting with the overall weak correlation for Pillar Three, suggests that the EU's peace-building efforts receive particularly positive coverage relative to other actors.

United States' Systematic Negative Pattern

The United States showed negative correlations across all pillars, with the strongest negative relationship in Pillar Four (Governance and Transparency) at -0.198. This pattern suggests that US governance support receives particularly critical coverage, potentially reflecting what Amevor (2025, p. 40) describes as media scrutiny of "dominant narratives by development actors that discursively reinforce USAID's structural and productive powers."

Russia's Mixed Profile

Russia displayed mixed correlations, with Pillar One showing the strongest positive correlation (0.279) while Pillar Three showed a slight negative correlation (-0.038). This variability may reflect the limited and inconsistent nature of Russian engagement across different development sectors.

5.6 Statistical Reliability and Bootstrap Validation

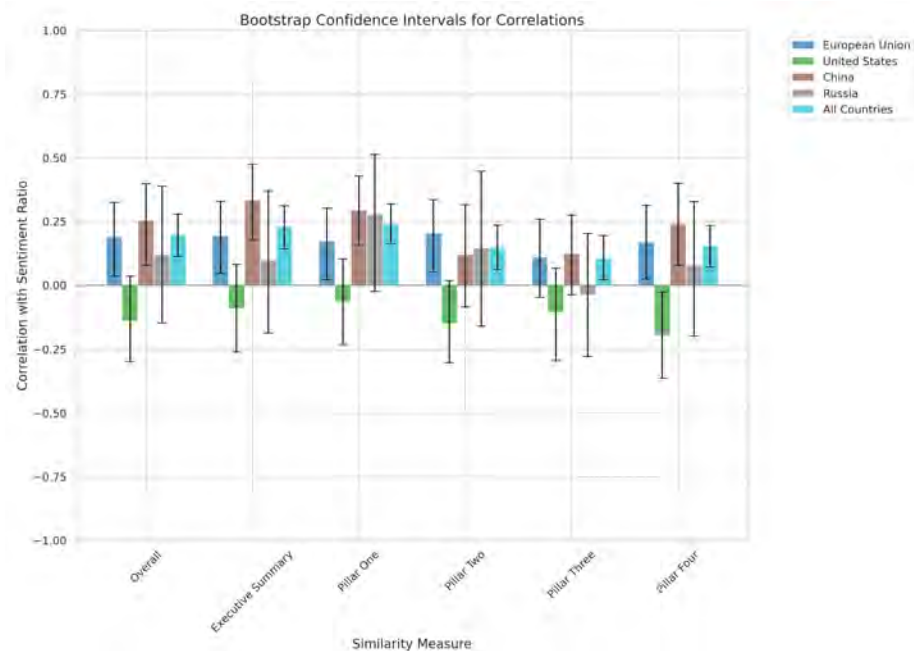


Figure 10 Bar chart with error bars showing bootstrap confidence intervals for correlations across countries and pillars.

Bootstrap confidence intervals (Figure 10) provide crucial validation of the observed patterns and reveal varying levels of statistical certainty:

China: Robust Positive Relationships

China demonstrates the strongest positive correlations with relatively narrow confidence intervals that consistently remain above zero, indicating both statistical significance and stability in media narrative patterns.

European Union: Positive but Variable

The EU shows positive correlations with wider confidence intervals, suggesting more variability in how EU-PAPD alignment translates to sentiment across different contexts.

United States: Contested Narratives

The US consistently shows negative correlations across all similarity measures, though many confidence intervals cross zero, indicating less statistical certainty and more contested narrative construction around American development initiatives.

Russia: High Uncertainty

Russia displays positive correlations but with the widest confidence intervals of all countries, reflecting both its smaller sample size (n=49) and potentially more varied narrative patterns in media discourse.

All Countries Combined: Confirmed Positive Relationship

The "All Countries" category shows consistently positive correlations with narrow confidence intervals, confirming that the overall relationship between PAPD alignment and positive sentiment is robust when considering all international actors together.

relationship between PAPD alignment and sentiment when all data is considered together. These bootstrap results reinforce the finding that the sentiment-alignment relationship is strongest and most consistent in Chinese media coverage, while more variable in Russian reporting and actually negative in US coverage.

5.7 Theoretical Implications for Development-Aligned Media Narratives

These findings contribute significantly to understanding how media in post-conflict African contexts constructs narratives about international actors through the lens of national development priorities. The analysis reveals several key theoretical insights:

Beyond Traditional Soft Power

Traditional soft power theory (Nye, 2004) emphasizes cultural attraction and value alignment as sources of influence. However, this analysis reveals that in post-conflict contexts, media may construct soft power narratives through perceived alignment with national development frameworks rather than cultural affinities. The importance of PAPD alignment in generating positive sentiment demonstrates that development effectiveness, as perceived through national priorities, may supersede traditional soft power mechanisms.

Challenging East-West Dichotomies

The marked difference between China/EU and Russia/US narrative patterns challenges simplistic East-West dichotomies in international relations. China and the EU, despite representing different geopolitical blocs, receive similarly positive coverage when their activities align with PAPD goals. Conversely, Russia and the US, also from different blocs, both receive less favorable coverage, though for different reasons, Russia due to limited development engagement and the US due to critical scrutiny of its initiatives and historical relationship with Liberia.

Development Frameworks as Sites of Legitimacy Construction

This finding supports Hagmann and Reyntjens' (2016) argument that development frameworks in African countries serve as important sites of discursive negotiation. The PAPD functions not merely as a policy document but as a legitimizing framework through which Liberian media evaluates and constructs narratives about international presence and activities.

National Ownership and Post-Conflict Development

The positive correlation between PAPD alignment and sentiment demonstrates the importance of perceived national ownership in post-conflict development contexts. As Ssengooba et al. (2017) and Donais (2014) argue, initiatives focusing on self-determination and national priorities are portrayed more favorably, reflecting a media discourse that values alignment with domestically defined development goals over externally-imposed agendas.

The Paradox of Historical Relationships

The United States' negative correlation, despite its long historical relationship with Liberia, reveals how historical ties can become a burden rather than an asset in contemporary development discourse. This paradox suggests that familiarity may breed scrutiny rather than favor, particularly when development initiatives are perceived as reinforcing historical power asymmetries.

5.8 Conclusion

The PAPD dictionary and sentiment analysis reveals that Liberian media systematically constructs more positive narratives around international actors whose activities align with national development priorities. Though this relationship is not causal, it adds evidence to the claim that alignment with domestically defined goals can serve as an important factor in soft power relationships. However, this relationship is neither uniform nor predictable across all actors. China's consistently strong positive correlations suggest successful alignment of its engagement with Liberian development priorities as perceived by media. The EU's positive but more variable patterns indicate generally favorable but context-dependent coverage. Russia's weak correlations reflect limited development engagement, while the US's negative correlations reveal a paradox where alignment with PAPD goals actually generates more critical coverage, suggesting heightened scrutiny of American development initiatives.

These patterns demonstrate that in post-conflict Liberia, media narratives about international actors may be shaped, in part, by perceptions of how well external engagement aligns with nationally-defined development priorities, rather than by geopolitical affiliations or historical relationships alone.

Chapter 6: Structural Topic Model Results and Analysis

6.1 Topic Identification and Structure

Structural Topic Modeling (STM) analysis of the news corpus covering the US, EU, Russia, and China in Liberia identified ten distinct topics that characterize media discourse about international actors (Figure 11). These topics encompass both development-oriented themes and conflict-related narratives:

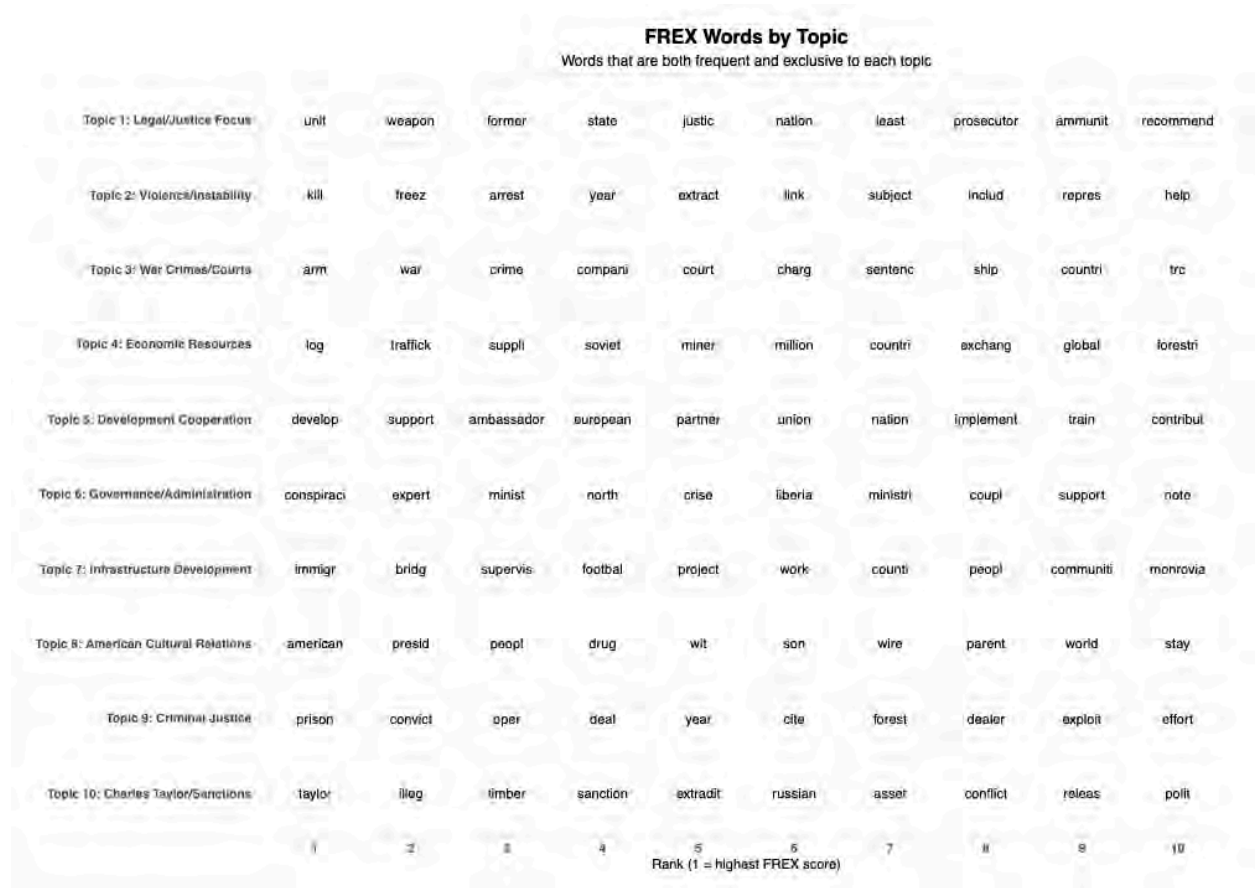


Figure 11 FREX Visualization showing the most frequent and exclusive words for each topic.

- Legal/Justice Focus (Topic 1)
- Violence/Instability (Topic 2)
- War Crimes/Courts (Topic 3)
- Economic Resources (Topic 4)
- Development Cooperation (Topic 5)
- Governance/Administration (Topic 6)
- Infrastructure Development (Topic 7)
- American Cultural Relations (Topic 8)
- Criminal Justice (Topic 9)
- Charles Taylor/Sanctions (Topic 10)

The identification of these topics through FREX (frequency and exclusivity) metrics reveals the dual nature of Liberian media discourse, which navigates between post-conflict legacies and contemporary development aspirations.

6.2 Sentiment Effects on Topic Prevalence

The relationship between sentiment and topic prevalence reveals three distinct patterns across the corpus (Figures 12-19). Both sentiment ratio and net sentiment metrics showed consistent relationships with topic prevalence, with extremely low p-values indicating statistical significance for most relationships.

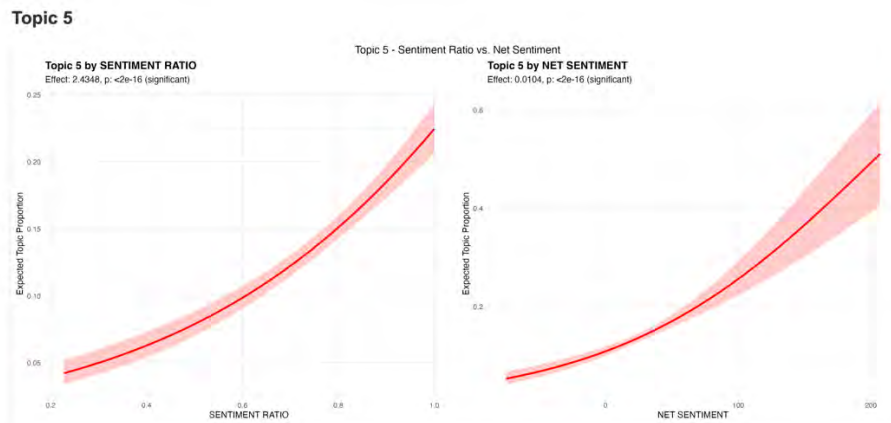


Figure 12 Sentiment Effects on Topic 5 (Development Cooperation)

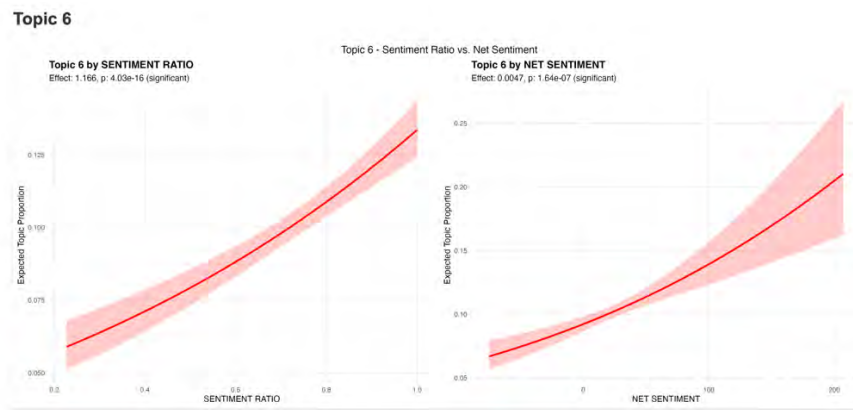


Figure 13 Sentiment Effects on Topic 6 (Governance/Administration)

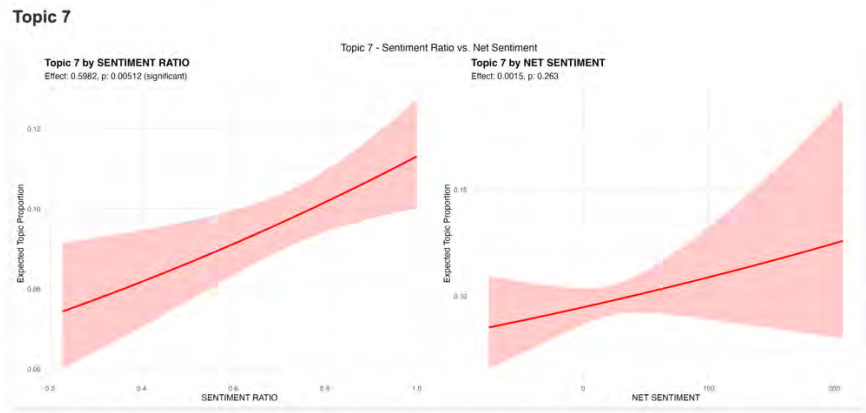


Figure 14 Sentiment Effects on Topic 7 (Infrastructure Development)

Development-oriented topics demonstrated strong positive correlations with sentiment, functioning as what Schmidt (2008) terms "communicative discourses" that legitimize international actor presence:

- **Topic 5 (Development Cooperation):** Exhibited the strongest positive relationship (Effect: 2.4348, $p < 2e-16$), indicating that development cooperation narratives are overwhelmingly associated with positive sentiment.
- **Topic 6 (Governance/Administration):** Showed substantial positive correlation (Effect: 1.165, $p = 4.03e-16$), suggesting that governance-related coverage tends toward positive framing.
- **Topic 7 (Infrastructure Development):** Displayed moderate positive relationship (Effect: 0.5982, $p = 0.00512$), reflecting generally favorable coverage of infrastructure initiatives.

These patterns demonstrate how Liberian media employs development topics as vehicles for constructing positive narratives about international engagement.

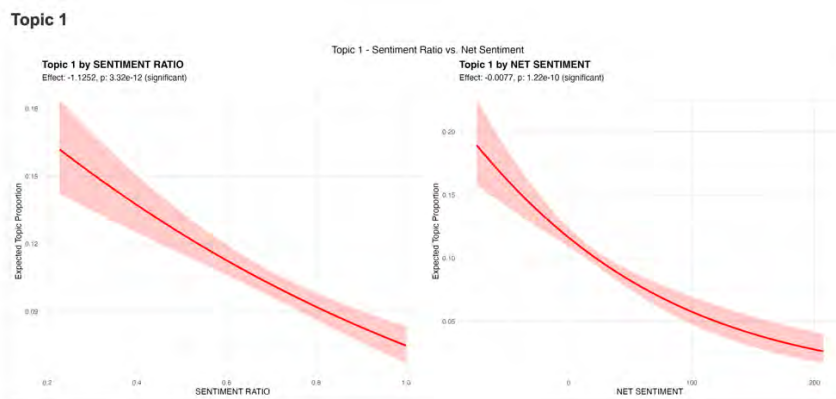


Figure 15 Sentiment Effects on Topic 1 (Legal/Justice)

Topic 2

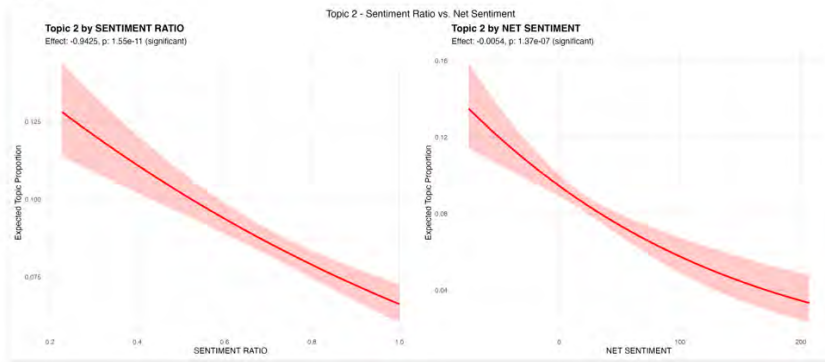


Figure 16 Sentiment Effects on Topic 2 (Violence/Instability)

Topic 3

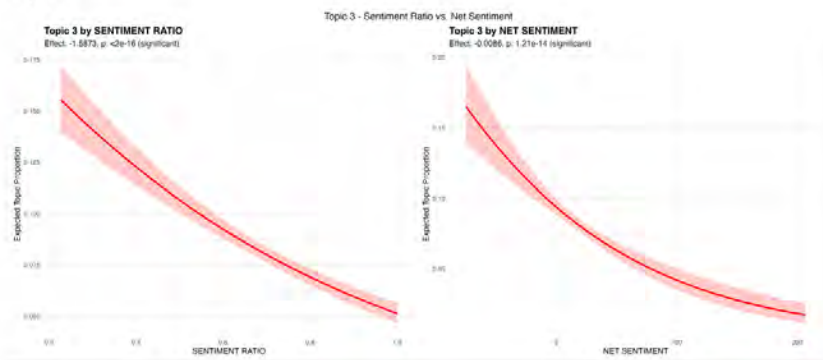


Figure 17 Sentiment Effects on Topic 3 (War Crimes/ Court)

Topic 10

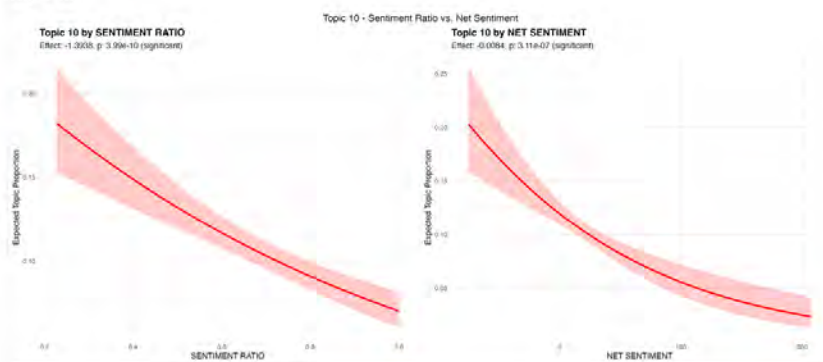


Figure 18 Sentiment Effects on Topic 10 (Charles Taylor/Sanctions)

Conversely, conflict and justice-related topics demonstrated strong negative relationships with sentiment:

- **Topic 3 (War Crimes/Courts):** Showed the strongest negative relationship (Effect: -1.5873, $p < 2e-16$)
- **Topic 1 (Legal/Justice):** Exhibited substantial negative correlation (Effect: -1.1902, $p: 5.53e-12$)
- **Topic 2 (Violence/Instability):** Displayed significant negative relationship (Effect: -0.9425, $p: 1.55e-11$)
- **Topic 10 (Charles Taylor/Sanctions):** Showed moderate negative correlation (Effect: -0.3898, $p: 3.99e-10$)

The confidence intervals (red shaded areas) demonstrate the statistical reliability of these negative relationships across all four conflict-related topics. Higher sentiment was systematically associated with lower prevalence of these topics in both sentiment ratio and net sentiment analyses.

Neutral Topics

Two topics showed no significant relationship with sentiment:

- **Topic 8 (American Cultural Relations):** $p = 0.82$
- **Topic 9 (Criminal Justice):** $p = 0.155$

These neutral relationships suggest that cultural relations and criminal justice issues occupy a different discursive space in Liberian media, neither systematically positive nor negative.

6.3 PAPD Alignment and Topic Prevalence

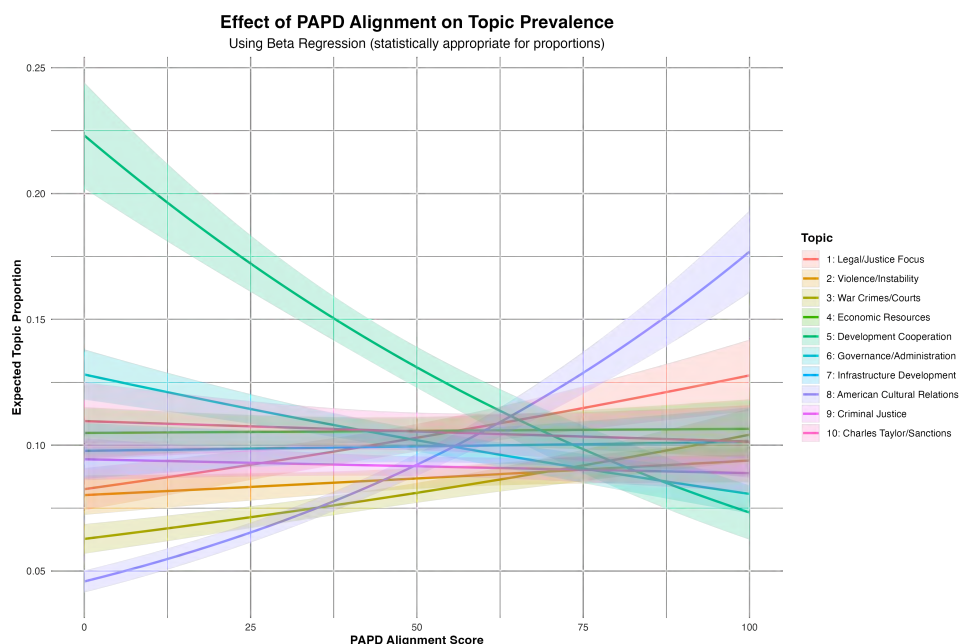


Figure 19 Expected Topic Proportion and PAPD Alignment

The analysis of how PAPD alignment affects topic prevalence reveals sophisticated patterns in media narrative construction (Figure 19). Two particularly striking patterns emerged:

Inverse Relationship: Development Cooperation

Topic 5 (Development Cooperation) demonstrated a strong negative correlation with PAPD alignment, with prevalence decreasing substantially from approximately 0.22 to 0.07 as alignment increased from 0 to 100. This counterintuitive finding suggests that highly PAPD-aligned coverage focuses less on general development assistance narratives and more on specific national priorities. This pattern aligns with Somers' (1994) concept of "relational setting," where narratives shift based on evolving national development priorities.

Positive Relationship: Cultural Relations

Topic 8 (American Cultural Relations) showed a strong positive correlation with PAPD alignment, with prevalence increasing markedly from approximately 0.05 to 0.17 at higher PAPD alignment scores. This suggests that media narratives emphasize cultural and historical ties when coverage aligns with national development goals, potentially reflecting the importance of soft power and cultural diplomacy in development-aligned discourse.

Modest Effects

Most other topics showed more modest relationships with PAPD alignment, with slight increases or decreases in prevalence as alignment scores changed, indicating that PAPD alignment primarily affects specific narrative domains rather than transforming overall topic distributions.

6.4 Country-Specific Effects on Topic Distribution

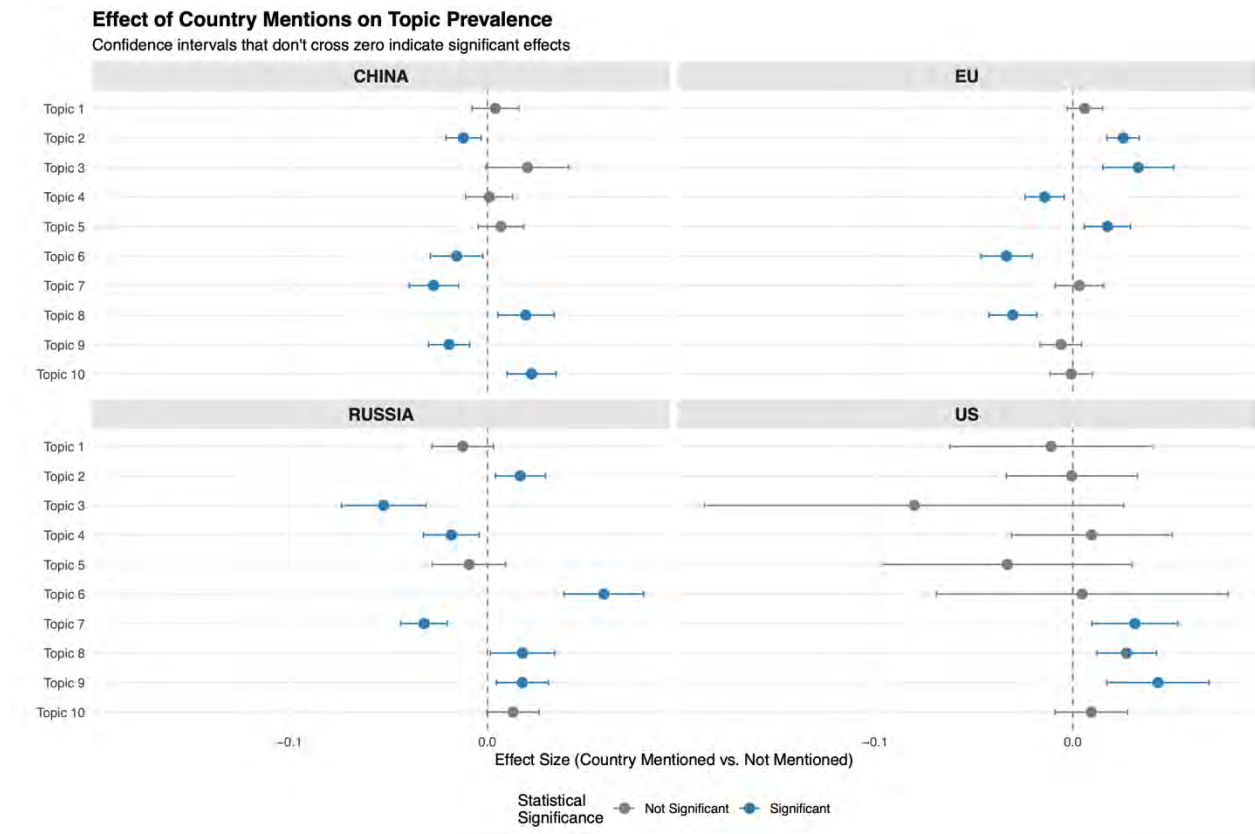


Figure 20 Effect of Country Mentions on Topic Prevalence

Analysis of country mentions revealed distinctive topic associations for each nation, demonstrating how Liberian media constructs unique narrative profiles for different international actors (Figure 20).

European Union: Comprehensive Engagement Profile

The EU showed strongest positive associations with:

- Development-related topics (Topics 2, 3, and 5)
- Governance (Topic 6)

- Cultural relations (Topic 8)

Notably, the EU's positive associations with Violence/Instability (Topic 2) and War Crimes/Courts (Topic 3) likely reflect media coverage of the EU's role in post-conflict justice initiatives, security sector reform, and transitional justice programs. This combination constructs a narrative profile emphasizing both constructive partnership and engagement with Liberia's complex post-war challenges.

United States: Sector-Specific Engagement

The US demonstrated strong positive associations with:

- Infrastructure Development (Topic 7)
- American Cultural Relations (Topic 8)
- Criminal Justice (Topic 9)

The US showed minimal or negative associations with general development cooperation or governance topics, reflecting how Liberian media frames American engagement through specific sectors rather than broad development narratives.

Russia: Political Emphasis with Limited Development

Russia exhibited notable positive associations with:

- Governance/Administration (Topic 6)
- Violence/Instability (Topic 2)
- American Cultural Relations (Topic 8)

Significant negative associations appeared with:

- War Crimes/Courts (Topic 3)
- Infrastructure Development (Topic 7)

This pattern suggests media construction of Russian engagement emphasizing political relationships while distancing Russia from justice initiatives and infrastructure development.

China: Distanced from Conflict Narratives

China showed significant negative associations with:

- Violence/Instability (Topic 2)
- Governance (Topic 6)
- Infrastructure Development (Topic 7)

Positive associations included:

- American Cultural Relations (Topic 8)
- Charles Taylor/Sanctions (Topic 10)

This pattern indicates how Liberian media frames Chinese engagement as distinct from conflict-related topics and traditional infrastructure narratives, despite China's significant infrastructure investments elsewhere in Africa.

6.5 Effect Size Analysis

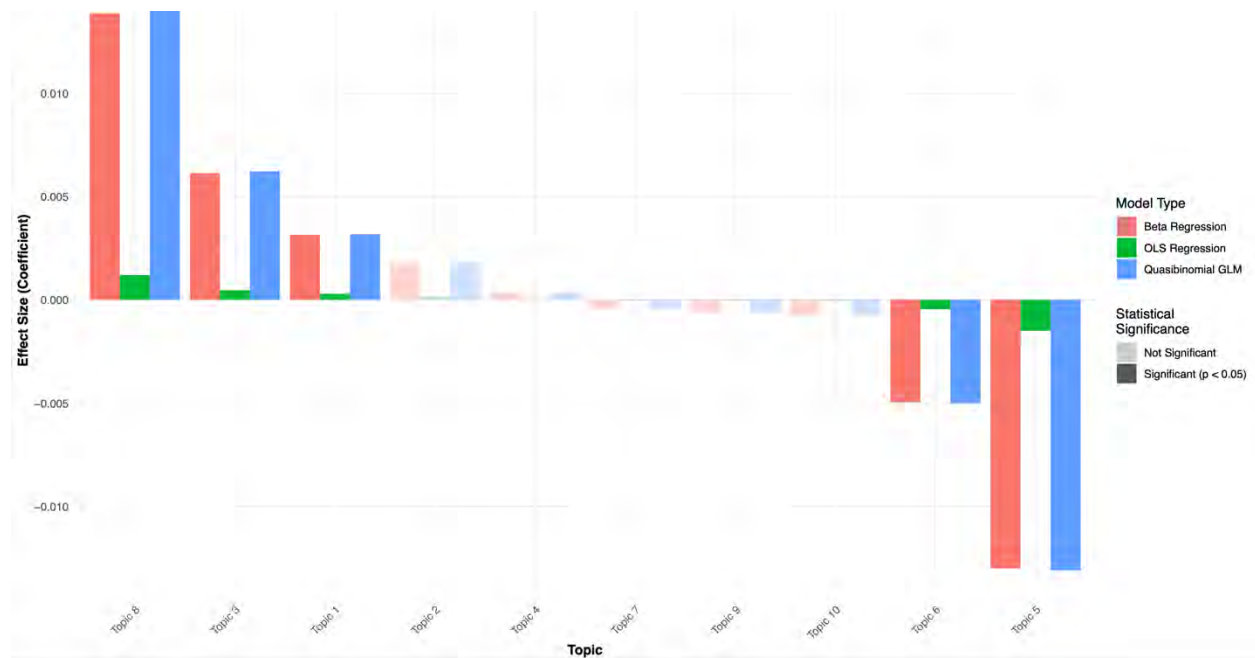


Figure 21 Comparative Effect Sizes Across Several Regression Models

The comparative effect size analysis across different regression models (Figure 21) revealed consistent patterns:

- Topics 5 and 6 showed the largest negative effect sizes
- Topic 8 displayed the largest positive effect

This consistency across different regression approaches strengthens confidence in the identified relationships and validates the robustness of the topic modeling results.

6.6 Topic Network Structure

Country-Specific Narrative Strategies

Each international actor receives distinctive narrative treatment:

- **EU:** Portrayed through comprehensive engagement including both development and post-conflict stabilization
- **US:** Framed through sector-specific contributions rather than holistic development partnership
- **Russia:** Characterized by political engagement with limited development presence
- **China:** Positioned as distinct from both conflict narratives and traditional infrastructure roles

PAPD Alignment as Narrative Shift

The inverse relationship between PAPD alignment and general development cooperation topics reveals sophisticated media discourse that moves beyond generic development narratives toward nationally-specific priorities as alignment increases. This demonstrates mature media engagement with development discourse that prioritizes national ownership over external assistance narratives.

6.8 Theoretical Contributions to Framing Theory

This structural topic modeling analysis contributes to framing theory by providing systematic descriptive analysis of how international actors are portrayed in developing nation media contexts. Following D'Angelo's (2002) multiparadigmatic approach, the findings integrate multiple theoretical perspectives:

Constructionist Perspective

From the constructionist lens (Gamson and Modigliani, 1989; De Vreese, 2005), the research documents how media create distinct "interpretive packages" around international actors through topic associations. Each country receives a unique constellation of topics that constructs its identity within Liberian media discourse.

Critical Perspective

Through the critical lens (Carragee and Roefs, 2004), the analysis catalogues framing patterns that may reflect power dynamics, particularly in how development topics generate positive sentiment while conflict-related topics produce negative coverage. This systematic pattern suggests underlying power structures in how international engagement is legitimized or critiqued.

Cognitive Perspective

From the cognitive perspective (Scheufele, 1999), the findings provide descriptive foundations for understanding how topic prevalence and sentiment interact to shape potential audience interpretations of international actors.

6.9 Conclusion

The structural topic modeling analysis reveals that Liberian media employs sophisticated narrative strategies in covering international actors, with clear distinctions between development-oriented topics that generate positive sentiment and conflict-related topics that produce critical coverage. Country-specific topic associations demonstrate how each international actor receives unique narrative treatment that reflects both their engagement approach and Liberian media's perception of their role in national development.

The relationship between PAPD alignment and topic prevalence particularly highlights the maturity of Liberian media discourse, which moves beyond generic development narratives toward nationally-specific priorities as coverage aligns more closely with domestic development goals. These patterns contribute to both framing theory and soft power scholarship by documenting how post-conflict media contexts construct legitimacy narratives around international presence through systematic topic-sentiment relationships rather than simple positive or negative coverage.

Chapter 7: DISCUSSION

7.1 Theoretical Contributions and Integration

This study advances multiple theoretical domains through its integrated computational analysis of media narratives about international actors in Liberia. The findings contribute to a more nuanced understanding of how soft power operates in contemporary African media landscapes, challenging traditional conceptualizations that privilege cultural attraction and value alignment (Nye, 2004). Instead, the results demonstrate that in post-conflict developing nations, soft power manifestations are primarily mediated through perceived alignment with national development frameworks, introducing what this study terms "development-aligned soft power."

The integration of framing theory with computational methods reveals systematic patterns in media discourse that extend beyond traditional frame identification. While previous framing research has focused on identifying discrete frames through qualitative analysis (Entman, 1993; De Vreese, 2005), this study demonstrates how computational approaches can uncover "narrative economies" - systematic relationships between sentiment, topic prevalence, and policy alignment that operate across entire media corpora. The finding that development-oriented topics (Development Cooperation, Governance/Administration, Infrastructure Development) consistently generate positive sentiment while conflict-related

topics produce negative sentiment, regardless of the international actor involved, suggests the existence of meta-framing structures that transcend individual news stories.

This computational validation of Somers' (1994) narrative economies concept represents a methodological bridge between interpretive and quantitative approaches to media analysis. The structural topic modeling results empirically demonstrate how certain narrative vehicles systematically carry positive or negative valence, providing quantifiable evidence for theoretical concepts previously explored only through qualitative methods. This finding has implications beyond the specific case of Liberia, suggesting that media systems in similar contexts may employ comparable narrative economies in constructing international relations discourse.

7.2 Methodological Innovations and Contributions

The development of the PAPD-specific dictionary through machine learning-enhanced TF-IDF extraction represents a significant methodological contribution to computational text analysis in development contexts. Traditional dictionary-based approaches often rely on general-purpose lexicons that may miss context-specific terminology crucial for understanding policy discourse. By combining algorithmic term extraction with semantic expansion through word embeddings, this study demonstrates a replicable framework for creating domain-specific dictionaries that capture the nuanced language of development policy.

The integration of three complementary analytical approaches - sentiment analysis, policy alignment measurement, and structural topic modeling - provides a more comprehensive understanding than any single method could achieve. The convergent findings across these methods strengthen confidence in the results while revealing different facets of media discourse. Sentiment analysis captured emotional valence, PAPD alignment measured policy relevance, and topic modeling revealed thematic structures, together providing a multidimensional view of media narratives.

The bootstrap resampling approach to statistical inference, particularly for comparing sentiment distributions across countries with varying sample sizes, demonstrates how computational methods can address common challenges in media analysis where data availability differs across comparison groups. The consistent use of non-parametric methods throughout the analysis acknowledges the non-normal distribution of media data while maintaining statistical rigor.

7.3 Challenging Conventional Geopolitical Narratives

Perhaps the most striking finding is how the results challenge simplistic East-West dichotomies in understanding international engagement with African nations. The remarkably similar sentiment profiles for China and the European Union, despite their different governance systems and development approaches, suggests that Liberian media

evaluates international actors primarily through the lens of development contribution rather than ideological alignment. This finding complicates assumptions about how African media systems perceive and represent global powers.

The United States' anomalous negative correlation between PAPD alignment and sentiment presents a paradox that warrants deeper theoretical consideration. While historical relationships and colonial legacies have been explored in African international relations literature, this quantitative evidence of inverse relationships between development alignment and media sentiment for historically connected nations represents a novel empirical contribution. This pattern suggests that proximity and historical ties may actually increase critical scrutiny rather than generate automatic positive coverage.

Russia's balanced sentiment profile, characterized by nearly equal positive and negative word frequencies, reveals how limited development engagement translates into neutral media narratives. This finding extends soft power theory by demonstrating that in development-focused media discourse, absence of substantial development contribution results not in negative coverage but in balanced, neutral narratives that neither strongly endorse nor criticize.

7.4 Limitations and Reflexive Considerations

While this study's computational approach enables systematic analysis across a substantial corpus, several limitations warrant acknowledgment. The reliance on dictionary-based sentiment analysis, while providing replicability and transparency, cannot capture irony, sarcasm, or complex rhetorical devices that human readers would identify. The Lexicoder dictionary, developed primarily for political text analysis in Western contexts, may miss culturally specific expressions of sentiment in Liberian English.

The three-year temporal window (2021-2023) provides a snapshot rather than a longitudinal view of evolving media narratives. Significant events outside this window, such as the early stages of Chinese re-engagement after 2003 or the height of UNMIL's presence, remain unexamined. Future research employing similar methods across extended timeframes could reveal how narrative patterns shift in response to changing international dynamics.

The exclusive reliance on AllAfrica.com, while providing comprehensive coverage, may not fully represent the diversity of Liberian media voices. Local radio, which remains a primary news source for many Liberians, operates with different constraints and audiences than online news platforms. The computational methods employed here could not capture these alternative media channels, potentially missing important variations in how different media formats construct narratives about international actors.

The topic modeling decision to use ten topics, while methodologically justified through coherence and exclusivity metrics, inevitably simplifies the complex thematic landscape of

international relations coverage. Some nuanced topics may have been subsumed within broader categories, and the fixed number of topics cannot capture the dynamic emergence of new themes over time.

Chapter 8: CONCLUSION

8.1 Summary of Research Questions and Findings

This study set out to examine how Liberian media constructs narratives about international actors in relation to national development priorities, addressing a critical gap in understanding soft power dynamics in post-conflict African contexts. Through computational analysis of 457 news articles covering the United States, European Union, Russia, and China from 2021-2023, this research answered three interconnected questions:

First, the sentiment analysis revealed that China (0.816) and the European Union (0.815) receive remarkably similar positive coverage despite representing different geopolitical positions, while Russia (0.500) maintains balanced neutrality and the United States (0.635) occupies a complex middle ground. These patterns transcend traditional East-West dichotomies, suggesting that development contribution rather than ideological alignment shapes media narratives.

Second, the PAPD alignment analysis demonstrated a significant positive correlation ($r = 0.1977$, $p < 0.001$) between coverage aligned with national development priorities and positive sentiment. However, this relationship varies dramatically by country: China shows the strongest positive correlation ($r = 0.2537$), while the United States exhibits a paradoxical negative correlation ($r = -0.1405$), revealing how historical relationships can burden rather than benefit contemporary coverage.

Third, the structural topic modeling uncovered systematic "narrative economies" where development-oriented topics (Development Cooperation, Governance/Administration, Infrastructure Development) consistently generate positive sentiment, while conflict-related topics produce negative coverage regardless of the international actor involved. This pattern reveals meta-framing structures that transcend individual news stories and shape overall discourse.

8.2 Theoretical Significance

This research makes several theoretical contributions that extend beyond the Liberian case. Most fundamentally, it introduces the concept of "development-aligned soft power" - a mechanism through which international actors achieve influence in post-conflict contexts not through cultural attraction or shared values as traditional soft power theory suggests, but through perceived alignment with host country development frameworks. This finding challenges Nye's (2004) cultural-centric conceptualization of soft power and suggests that in developing nations, particularly those emerging from conflict, development effectiveness serves as the primary currency of international legitimacy.

The empirical validation of Somers' (1994) narrative economies concept through computational methods bridges interpretive and quantitative approaches to media analysis. By demonstrating how certain narrative vehicles systematically carry positive or negative valence across an entire corpus, this study provides quantifiable evidence for theoretical concepts previously explored only through qualitative methods. This has implications for media studies broadly, suggesting that computational approaches can reveal structural patterns in discourse that complement traditional frame analysis.

8.3 Practical Implications

For international development practitioners and policymakers, these findings carry significant implications. The strong correlation between PAPD alignment and positive media sentiment suggests that genuine partnership approaches centering host country priorities generate more favorable public discourse than imposed development agendas. International actors seeking to build legitimacy in African contexts should prioritize substantive alignment with national development frameworks over rhetorical adherence or traditional public diplomacy strategies.

The differential patterns across countries indicate that historical relationships require fundamentally different engagement strategies than new partnerships. The United States' negative correlation between development alignment and sentiment suggests that long-standing partners may face heightened scrutiny that newer actors like China avoid. This "burden of proximity" requires more sophisticated communication strategies that acknowledge historical complexities while demonstrating genuine commitment to nationally-defined priorities.

For African policymakers and media practitioners, these findings highlight media's active role in shaping international relations discourse. Rather than merely reflecting government positions or external propaganda, Liberian media demonstrates sophisticated agency in evaluating international actors through development-focused lenses. This suggests that strengthening media capacity and independence can enhance African nations' ability to navigate complex international partnerships while maintaining ownership over development trajectories.

8.4 Future Research Directions

This study opens multiple avenues for future investigation that could deepen our understanding of media, development, and international relations in African contexts:

Comparative African Analysis: Extending this methodology to other African countries with different colonial histories, conflict experiences, and relationships with international partners could reveal whether development-aligned narrative construction represents a broader continental pattern or reflects Liberia's specific post-conflict dynamics.

Longitudinal Evolution: Analyzing media coverage from the early 2000s through the present could trace how narrative patterns evolved in response to major transitions - from war to peace, through UNMIL's deployment and withdrawal, and across shifting global development paradigms. Such analysis could reveal whether current patterns represent stable features or temporary phenomena.

Public Opinion Integration: Combining computational media analysis with public opinion surveys could investigate the relationship between media narratives and citizen attitudes. Do the sentiment patterns and narrative frames identified in media coverage influence or reflect broader public perceptions of international partners?

Methodological Advancement: Incorporating transformer-based language models trained on African media corpora could capture more nuanced semantic relationships than dictionary-based approaches. These methods might better identify subtle differences in how similar development activities are framed across different international actors.

Multi-Modal Analysis: Extending analysis beyond text to include images, videos, and social media could provide a more comprehensive view of how international actors are represented across Liberia's diverse media ecosystem.

8.5 Concluding Reflections

This study demonstrates the power of computational methods to reveal systematic patterns in media discourse that illuminate complex dynamics of international engagement in post-conflict African contexts. By moving beyond anecdotal observations or small-sample qualitative analysis, the research provides empirical evidence for how soft power operates in contemporary Africa - not through cultural hegemony or ideological alignment, but through demonstrated commitment to nationally-defined development priorities.

The findings challenge simplistic narratives about Chinese influence, Western decline, or African victimization in international relations. Instead, they reveal sophisticated African media systems that evaluate international actors through pragmatic development lenses, constructing differentiated narratives based on perceived contributions to national progress. This African agency in shaping international relations discourse represents a crucial but often overlooked dimension of contemporary global politics.

As Africa continues its trajectory toward greater economic integration and political influence on the world stage, understanding how African media systems construct narratives about international engagement becomes increasingly important. This research provides both theoretical frameworks and methodological tools for such understanding, contributing to more nuanced and empirically grounded discussions of Africa's place in the evolving global order.

The integration of computational methods with development studies opens new possibilities for evidence-based analysis of complex social phenomena. As demonstrated here, these approaches can reveal patterns invisible to traditional methods while maintaining the interpretive depth necessary for understanding context-specific dynamics. This methodological synthesis points toward a future where African scholarship leads in developing innovative approaches to understanding contemporary global challenges.

Ultimately, this study affirms that in an era of renewed great power competition in Africa, the continent's media systems are not passive conduits for external propaganda but active constructors of meaning that shape how international engagement is understood and evaluated. Recognizing and respecting this agency is essential for any international actor seeking sustainable partnerships with African nations. As Liberia and other African countries continue asserting ownership over their development trajectories, the ability to align with and support these nationally-defined visions - rather than imposing external agendas - will increasingly determine the success or failure of international engagement on the continent.

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Appendix

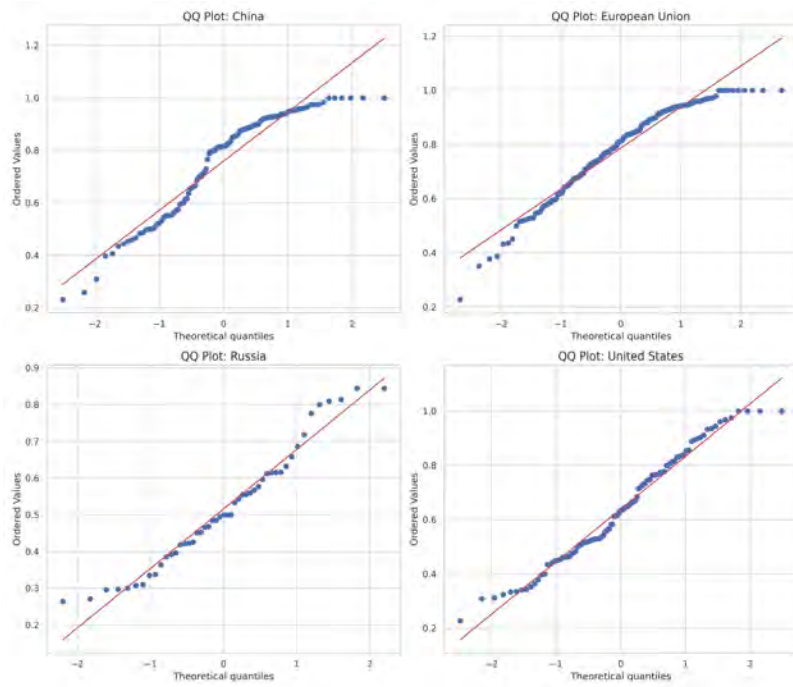


Figure S1 QQ plots showing non-normal distribution of sentiment data across countries, supporting the use of non-parametric statistical methods.

Pairwise Comparisons of Sentiment Between Countries

Comparison	Medians	Difference	Hodges-Lehmann	p-value	Adj. p-value	Significant
China vs European Union	0.816 vs 0.815	0.002	-0.013	0.5072	1.0000	✗
China vs Russia	0.816 vs 0.500	0.316	0.267	0.0000	0.0000	✓
China vs United States	0.816 vs 0.635	0.181	0.131	0.0000	0.0001	✓
European Union vs Russia	0.815 vs 0.500	0.315	0.290	0.0000	0.0000	✓
European Union vs United States	0.815 vs 0.635	0.180	0.158	0.0000	0.0000	✓
Russia vs United States	0.500 vs 0.635	-0.135	-0.125	0.0003	0.0016	✓

Figure S2 Mann-Whitney U test results for all pairwise country comparisons, with Bonferroni-corrected p-values and Hodges-Lehmann estimators of effect size.

Sentiment Statistics by Country

Country	Count	Median	Mean	25th Pctl	75th Pctl	IQR	Min	Max
China	111	0.816	0.759	0.596	0.923	0.327	0.231	1.000
European Union	189	0.815	0.787	0.686	0.917	0.231	0.227	1.000
Russia	49	0.500	0.516	0.396	0.614	0.218	0.264	0.844
United States	106	0.635	0.639	0.502	0.777	0.275	0.227	1.000
All Countries	455	0.748	0.717	0.556	0.888	0.333	0.227	1.000

Figure S3 Summary statistics of sentiment ratios by country, including central tendency, dispersion, and extrema.