

Media framing of the belt and road initiative in Africa: Content analysis of Nation media newspaper in Kenya

Isaac S. Wafula^{1*}
Min Xu

^{1*}izoshammah@gmail.com (+254722316804)

²xumin@dhu.edu.cn

¹<https://orcid.org/0009-0005-4443-6281>

¹Master's Student, ²Associate Professor, ^{1,2}Department of Journalism and Communication, Faculty of Humanities, Donghua University, Shanghai, China

<https://doi.org/10.51867/ajernet.6.3.41>

ABSTRACT

This paper discusses the coverage of the Belt and Road Initiative (BRI) by Nation Media and the perceived economic effects of BRI in Kenya between the year 2013 and 2024. Framing theory serves as the theoretical foundation of this study due to its capacity to help media organizations structure meaning around complex global developments, such as the Belt and Road Initiative (BRI). Using a mixed-methods approach, a content analysis of 178 newspaper articles from Nation Media Publications (The East African, Daily Nation, Business Daily Africa, Daily Monitor, and The Citizen) was conducted using a customized thematic and sentiment analysis designed to address the research objectives. The sentiment analysis revealed 69.1% of the total coverage is framed as positive, 23.2% negative, and 7.7% neutral. Across these economic subthemes: Business & Industry, Debt, Digital Economy, Economic Growth & Development, Finance & Banking, Fiscal & Monetary Policy, Infrastructure Development, Labor & Employment, Poverty & Wealth Distribution, Resources & Sustainability, and Trade & Commerce, the analysis demonstrates that the BRI is portrayed as beneficial to Kenya, supporting it in the attainment of its vision 2030 development objectives, and Kenya is positioned as a strategic partner, and not a passive recipient of Chinese investment. The research demonstrates that improved computational approaches that integrate thematic analysis and sentiment analysis were more insightful with respect to media framing. The study also suggests that the methodological framework could be adapted to comparative studies across African countries to examine how cultural, social, economic and political factors influence framing of global infrastructure development projects.

Keywords: Belt and Road Initiative, Content Analysis, China-Africa Relations, Kenya, Media Framing, Sentiment Analysis

I. INTRODUCTION

In February 2025, 145 countries were reported to have joined the Belt and Road Initiative (BRI) by signing a Memorandum of Understanding (MoU) with China. Among the various slogans propagated, such as 'the Chinese Dream', the 'Asia-Pacific dream' and 'a new type of major-country relationship', many could agree that it is President Xi Jinping's Belt and Road Initiative (BRI) that draws the most ambitious map and offers the most expansive cooperative opportunities worldwide (Miao, 2021). According to World Bank, these partnerships represent 35% of global foreign direct investments and 40% of global merchandise exports (Statista Research Department, 2025), making BRI discussions almost impossible to avoid. Whether it's a new railway station in Kenya, a port facility in Azerbaijan, a Confucius Institute at a university somewhere in Europe, or a telecommunications project in Latin America, millions of people engage with BRI-related projects daily---often without explicitly knowing it. More than 40 countries that have signed cooperation agreements to participate in the Belt and Road Initiative are located in sub-Saharan Africa, making this region very significant to China. The news organizations in these African countries play a crucial role in informing the public about the initiative's goals, its investments in their countries, and in providing consistent updates on its implementation strategies in other nations.

Audience Measurement and Industry Trend report by the Communications Authority of Kenya (CA) as an example, indicates that most Kenyans continue to depend on traditional media as their primary source for information (Communications Authority of Kenya, 2024). This is not surprising because there is a growing concern about the reliability of online information sources that allow virtually anyone to create and share content with minimal verification. Kenyan media outlets reporting on the Belt and Road Initiative and its numerous projects such as the Standard Gauge Railway make editorial choices about which aspects to emphasize and what topics to discuss. These choices---whether emphasizing economic benefits of the Initiative's projects, environmental concerns, labor practices, or geopolitical implications---shape public understanding of the China-Kenya relations. This process of selecting and emphasizing

certain aspects of reality while minimizing others is what communication scholars refer to as framing. How Kenyan journalists frame BRI projects is crucial to understanding how this global initiative is being interpreted and presented to the Kenyan public.

1.1 Statement of the Problem

A number of studies have conducted thematic or sentiment analysis to evaluate how the Belt and Road Initiative is framed in the media (Aslam, 2024; Chu et al., 2025; García-Herrero, 2024; Malik et al., 2025; Niu & Relly, 2021). However, there is little research applying systematic approaches integrating both methods to demonstrate how sentiment patterns change depending on the thematic context. Since news texts convey sentiments implicitly through structural patterns that require thematic identification and because framing effects operate through both cognitive (how issues are conceptualised) and affective (how audiences feel about issues) mechanisms, a thorough analysis of media framing analysis requires both thematic and sentiment analysis (Balahur et al., 2013; Chong & Druckman, 2007). The specialized analytical frameworks developed in the study examine how journalists' selection of language influences reader perception of issues. Rather than simply categorizing framing as positive or negative, the study analyzes how journalists carefully select particular words, contextualize relationships between those words, and develop language patterns that shape public understanding of critical issues that affect the economy.

1.2 Research Objectives

The specific research objectives are:

- i. To identify the dominant economic themes in Nation Media's coverage of the Belt and Road Initiative (BRI).
- ii. To analyze the sentiments expressed across these subthemes and assess how framing of the BRI varies across the economic theme.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Background of Framing Theory

Framing theory serves as the theoretical foundation of this study due to its capacity to help media organizations structure meaning around complex global developments, such as the Belt and Road Initiative (BRI). Despite its widespread application, framing theory remains conceptually fragmented since there is no widely accepted unified structure for the theory, this challenge continues to plague any attempts to formulate a single, distinct framework that can be applied across different disciplines. In innovation research for example, the Journal of Product Innovation Management published a study in 2023 arguing that "inconsistencies in definition and operationalisation of constructs stall theoretical advancement of innovation framing theory and practice" (Reynolds et al., 2023). Reynold's study is important because it shows that the challenge framing theory presents isn't only limited to media studies.

Sullivan (2023) argues that the confusion in framing theory comes from a historical misunderstanding between communication studies and linguistics scholars because they were unaware that the concept of frames arose independently (at least) twice. Sullivan's three levels framework provides three distinct types of frames: Semantic Frames which are well defined and structured, Cognitive Frames which are flexible, and Communicative Frames which arise when cognitive frames are encoded in media. Sullivan explains that the "fractured paradigm" isn't a flaw that needs to be fixed, but rather a result of different scholars trying to address different aspects of creating meaning from issues that affect human beings' decision-making. She suggests the confusion created by scholars who try to unify framing theory can be resolved by recognizing the distinct but complementary roles of each framing level. While the versatility of framing theory allows it to be applied across various fields, it is also important to acknowledge the theoretical challenges this flexibility presents.

2.2 Empirical Review

A considerable amount of literature has been published on newspaper coverage of the Belt and Road Initiative (BRI). These studies have found that newspapers frame the initiative differently because of the application of different methodologies. This research sampled several studies that investigated BRI framing across a range of countries including China, Pakistan, Malaysia, Nigeria, Vietnam, the United States, and European states. Bai and Hyder (2021) performed a thorough study of 667 editorials of the most popular four Pakistani newspapers: Dawn, The News, The Nation, and The Express Tribune using content analysis that was carried out within the frames of their investigations during the period of January 2017 up to December 2018. Their quantitative and qualitative methodology identified the following frames; cooperation, concern, defense/security, and administrative management. In general, their analysis found that while Pakistani newspapers tended to be supportive of BRI, there was criticism of administrative inefficiencies and transparency. Compared to other works, the study's depth and large sample size provided a more peripheral perspective; however, a comparison would be appreciated to understand how the same themes are enacted in other locations with

comparable geopolitical constraints.

Teo and Xu (2021) presented a comparative content analysis of the China Daily and New York Times between the years 2013 and 2019. Their cross-national framing analysis noticed that the Chinese media were supported by using the sociocultural and geopolitical support frames, whereas the U.S. media used the geopolitical frame to focus more on the threat posed by BRI. Although the range of the data (165 articles) was relatively small, the study managed to demonstrate the ideological drama between the East and the West. Nonetheless, a more analytical study of discourse would be useful to reveal the narrative tactics or rhetorical tendencies that such geopolitical framings as in international journalism involve.

Research on Southeast Asia and Africa, e.g. Anunne et al. (2019), sampled more than 200 editorials in Nigeria, Malaysia and Vietnam using qualitative framing analysis and found the theme of "cautious optimism" that balanced understanding of economic benefits with political reservations. In their research, we see how countries were carefully considering the opportunities of Chinese infrastructure investment and were aware that they may be at the risk of becoming too dependent on China or even letting in more Chinese influence. One of the limitations of their study might have been the fact that they did not examine whether attitudes changed over the course of the study. Tracking these changes would have provided a better picture of how views evolved. While prior studies have examined the framing of the Belt and Road Initiative in the media in various countries, much of the work used either broad sentiment analyses or generalized thematic categorization. These studies largely have neglected to make visible the subtle, linguistic choices or structural framing methods journalists make in developing perceptions for the public.

2.3 Tankard's Framing Approach

Tankard's "List of Frames" establishes a methodological framework that provides both methodicality and the ability to reproduce results (Tankard, 2001, p. 100). The identification process of frames becomes free from subjectivity by using preselected indications which include keywords, catchphrases and symbols. Tankard's systematic method enables coders to reach agreement while maintaining dependability through its structured framework which is challenging to accomplish in qualitative and constructivist research approaches. The framework closes the theoretical-application gap by converting framing concepts into quantifiable measures which enables straightforward systematic content analysis. In the case of Kenya, in particular, there's a need to apply framing theory in a way that will capture both the language choice of grouping issues into themes and the sentiments that follow them. This study uses an integration of Tankard's framing approach with a custom computational framework which uniquely combines thematic and sentiment analysis.

Since Kenya has substantial financial and strategic investments in BRI-related projects, the way such initiatives are discussed in the most popular media source in the country has significant policy implications. The direct impact of media framing of the BRI on Kenya-China relations is that it shapes how the population perceives the relationships and the political environment in which future cooperation decisions will be taken. The stakes behind such relationships are high, and therefore require analytical methods capable of pinpointing patterns of framing in a reliable and accurate way. The systematic approach adopted by Tankard enables this study to generate results that are robust enough to inform policy discussions and contribute to evidence-based public discussions about Kenya's engagement with the Belt and Road Initiative.

III METHODOLOGY

3.1 Research Design and Approach

This study used content analysis to find out how the Belt and Road Initiative is framed by Nation Media. "To frame is to choose some parts of a perceived reality and make them more important in a communicating text, in a way that encourages a certain problem definition, causal interpretation, moral evaluation, and/or treatment recommendation," Entman (1993, p. 52). In other words, this study looks at what a journalist reports about the BRI, and how they report it. Therefore, this relationship necessitates a mixed-method approach that looks at textual data in two steps. Thematic analysis that will assist in finding the themes that come up in texts and sentiment analysis that will show how these themes are presented and discussed.

3.2 Sampling Strategy

The researcher used purposive sampling since Nation Media is Kenya's leading news organization. This study population comprises five separate publications of Nation Media; The East African, Daily Nation, Business Daily Africa, Daily Monitor, and The Citizen, published between 2013 and 2024. The Nation Media's overall importance in the study is exemplified by a demonstration of the State of the Media Report 2023/2024, which states that Nation Media is the largest news organization in Kenya, in addition to the fact that one of its newspapers, Daily Nation, had reportedly the highest readership among newspapers in Kenya at 35% in 2023. The sample size for this study is 178

articles obtained from a total of 328 newspaper articles of the five selected papers for the period 2013 to 2024.

3.3 Data collection

To arrive at this sample size, researchers conducted an online search on Nation Media's digital archives with keywords relating to BRI, OBOR, Silk Road and China-Kenya relations. The e-papers were then scrutinized and filtered to remove papers that were not relevant to the research topic, subsequently reducing the number from 328 to 178 articles.

3.4 Data Analysis

3.4.1 Units of Analysis/M Measurement

The units of analysis or measurement refer to those benchmarks used in analysing and evaluating data collected. This study developed content categories from the economic theme to determine and analyze issues Nation Media Group focused on regarding the Belt and Road Initiative. These content categories have been divided into Business & Industry, Debt, Digital Economy, Economic Growth & Development, Finance & Banking, Fiscal & Monetary Policy, Infrastructure Development, Labor & Employment, Poverty & Wealth Distribution, Resources & Sustainability, and Trade & Commerce.

3.4.2 Thematic Analysis

The study employs a complex mathematical model that assesses the associations between thematic indicators within their contexts making the interpretation of specific terms more reliable. The formula comprises several main parts: Base Weight (B), which is the initial level of importance of a thematic indicator; Co-occurring Weight (P), which reflects the importance of other indicators present in the text; Semantic Alignment (S), which indicates the proximity effect of indicators; Distance Function (D), which evaluates contextual considerations at the text level; and Environmental Modifier (E) which evaluates the strength of the relationship between indicators.

Figure 1 shows Base weight $B(i)$ which is the starting value of a term based on term frequency and domain relevance. Higher $P(j)$ values mean more influential neighboring terms. It is important to clarify that $B(i)$ and $P(j)$ are independent values serving different purposes. They are not directly comparable, and $P(j)$ is not required to be less than $B(i)$ because they represent different aspects. $B(i)$ represents the inherent importance of the term itself. The code analyzes three factors to determine a term's Base weight: frequency calculation (how often a term appears in the input text), domain importance (derived from predefined theme dictionaries), and term significance (named entities like people, organizations, places, and specialized technical terms in relevant context).

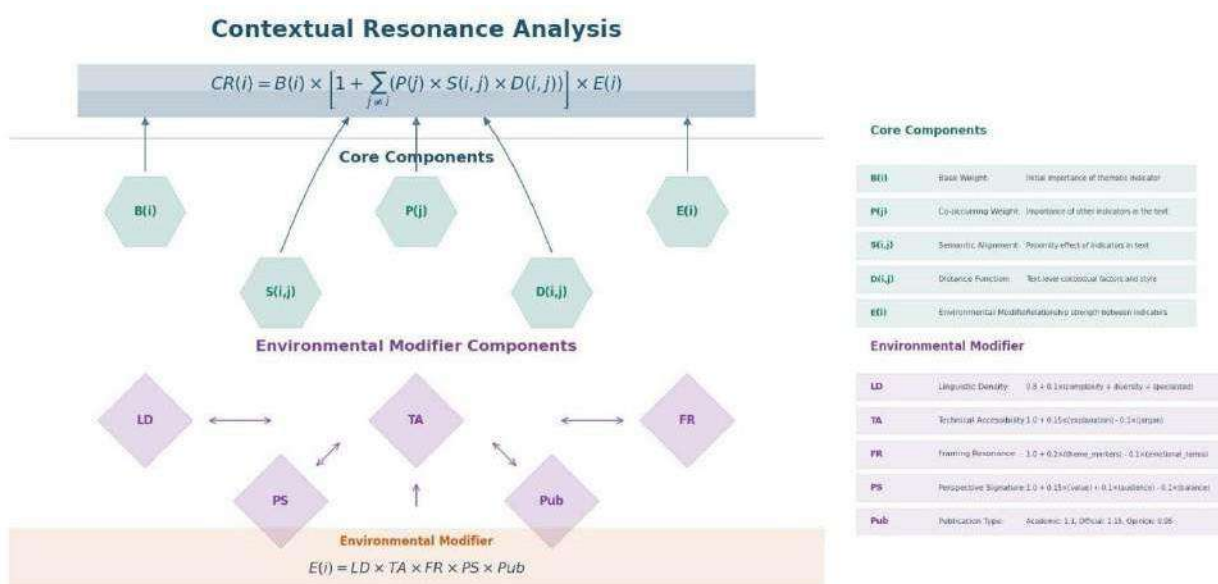


Figure 1

CRA Formula

https://drive.google.com/file/d/1gwlszPd_9IuIn1FUoXWfq_TZXs4fS_1g/view?usp=sharing

Contextual Amplification $[\sum_{j \neq i} (P(j) \times S(i,j) \times D(i,j))]$. Contextual amplification is the essence of what makes CRA "resonant." It measures how terms occurring near an indicator term amplify and provide additional meaning to that indicator term. CA assumes that words derive meaning from their surroundings. The meaning of a term emerges

not only from its inherent weight and how it combines with other terms, but also from the meanings of other terms occurring nearby. To illustrate the idea with an analogy: When a person mentions the term "budget," it takes on significance if three other people nearby are talking about the terms "deficit," "spending," and "taxes" (all contextually related terms). The surrounding terms amplify the economic theme of "budget" much more than if surrounding people were having conversations about irrelevant topics. From the formula, $S(i,j)$ is the semantic alignment (how semantically related terms are) and $D(i,j)$ distance effect (how close the terms are in the context).

Maximum CR value cap (2.0). This function prevents any individual term from skewing the analysis with excessively high scores. This capping is crucial as it helps maintain a consistent and interpretable scale for scores across various texts. By balancing term influence, it mitigates the risk of "thematic clustering," where a cluster of related terms within a single paragraph can overshadow other important elements.

Environmental Modifier (E(i)). The Environmental Modifier makes the analysis more intelligent by understanding context – just like humans do when we read something and instinctively know if it's a serious discussion or just casual chatter. It's the difference between counting keywords and truly understanding the nature of the discussion. It has 5 components. Linguistic Density (LD) analyzes sentence complexity, vocabulary diversity and specialized term ratio. Technical Accessibility (TA) assesses how approachable or technical the text appears to be for readers. In other words, it acts as a readability modifier within the EM formula. While LD rewards complexity and specialized terminology, TA rewards clarity and explanation. It prevents complex terms from receiving disproportionately high thematic scores. Framing Resonance (FR) measures how strongly a text aligns with the characteristic language and perspectives of a particular theme. Perspective Signature (PS) checks the text's direct engagement with the audience. It measures how much the text acknowledges different perspectives. Publication Modifier (Pub) is the final component of the Environmental Modifier. It serves as a simple adjustment based on the apparent type or style of the text. It checks for key terms that indicate different publication types such as academic content; which is identified by terms like "study", "research" or "data", official announcements which use opinion pieces; "opinion", "view" etc. This function reduces the weight of opinion content and boosts the credibility of certain sources like academic content which have factual basis.

3.4.3 Advanced Sentiment Analysis

The code developed for this research also includes predefined lexicons which were manually compiled by developers who have domain expertise in economics and finance. It is advanced because it goes beyond word-level sentiment analysis. It has been designed to conduct a structural analysis across sentences and paragraphs. It is important to note that while tools like TextBlob and VADER provide a great deal of foundational analysis, the intricacies of our research objectives demand additional approaches to capture the entirety of subtle differences in texts that generalized lexicons may miss. The code uses an open-source Python library called Streamlit which serves as the web application that makes it possible to input text or upload multiple files for analysis. This file handling functionality creates a seamless connection between user-uploaded data and the analysis code. After the analysis, Streamlit updates the User Interface with results and progress information at the same time a download button is generated that provides the processed results back to the user.

The code's dictionaries include a domain-specific lexicon that detects sentiment in economic and policy textual data. This lexicon maps terms to sentiment scores (-1 to +1). For example, "growth" has a positive score (0.5) while "recession" has a negative score (-0.6). In order to understand the processes within the code, it is essential to first define these terms; polarity and subjectivity. Polarity simply refers to the overall sentiment conveyed by a particular text, phrase or word. The polarity score ranges from -1 (very negative) to +1 (very positive). The threshold has been set to classify values of 0.8 or higher as "Extremely Positive," scores between 0.6 and 0.799 as "Very Positive," 0.3 to 0.599 as "Moderately Positive," and values between 0.1 and 0.299 as "Slightly Positive." Values between -0.099 and 0.099 will indicate "Neutral," while values from -0.1 to -0.3 as "Slightly Negative," -0.301 to -0.6 as "Moderately Negative," -0.601 and -0.8 as "Very Negative," and values below -0.8 as "Extremely Negative." The code starts with a basic sentiment analysis using TextBlob. TextBlob produces a basic polarity score based on a pre-trained model that assigns sentiment values for words and phrases. TextBlob is commonly used for sentiment analysis, but has a few limitations. One is that it treats all words the same regardless of context. For example, in general language, the word "volatile" has negative connotations. It might describe an unstable person or dangerous situation. In finance however, is a neutral technical term that specifically describes price movements or market conditions with large rapid fluctuations. High volatility means greater price fluctuations, which can be viewed favourably or unfavourably. The domain-specific lexicon is crucial here, as it helps the code to recognize terms like "leverage", "debt", "risk" and others, have specific technical meanings in economics that don't carry the same sentiment implication as they would in general language. These sentiment values have been assigned based on empirical observation of how markets or readers typically react to terms in financial contexts. Consider why a term such as "reform" might be (+0.3) while another term "growth" (+0.5). "Growth" has a higher value because it directly indicates expansion and positive performance, almost always viewed

positively in business contexts. "Reform" suggests improvements but often implies fixing existing problems, and may involve short-term disruption.

When the code analyzes text, it identifies these specific terms and incorporates their pre-assigned sentiment values into the overall calculation. Another limitation of TextBlob is that it struggles with negation, hedging and contrastive statements. An example; revenue will increase (clearly positive), revenue may possibly increase (positive but less certain) and revenue has a slight chance of increasing (minimally positive). All these three statements are positive, but they express different levels of confidence. The code detects such hedging language and adjusts sentiment scores accordingly. Contrastive statements like "Despite strong revenue growth, profit margins decreased." are numerous in economic and political conversations, allowing speakers to acknowledge positives while emphasizing negatives or vice versa. The code handles this through specific detection of contrastive terms. It also detects investment mentions like "\$500 million investment in new facilities..." which generally indicate positive economic activity and assign positive sentiment values.

$$\text{Weighted polarity} = \frac{\sum i \text{Score}(i) \times \text{Weight}(i)}{\sum i \text{Weight}(i)}$$

$$FS = W_1 \times \text{Base} + W_2 \times \text{Domain} + W_3 \times \text{Context} + W_4 \times \text{Adjustment}$$

Figure 2 illustrates how the analysis relies on two formulas to calculate text sentiment. Firstly, weighted polarity is calculated using the formula: $\text{Weighted Polarity} = (\sum \text{Component Score} \times \text{Component Weight}) / (\sum \text{Component Weight})$. Each of these sentiment components will contribute to the Weighted Polarity based on the level of contribution. This is useful for making specialized economics terminology more influential than base sentiment. Once the weighted polarity is calculated, several adjustments are made sequentially to arrive at the final sentiment. An adjustment means (a) the polarity of the component would be multiplied by 0.5 to reduce negativity, if applicable, this is because news organizations sometimes sound more dramatic than they mean, (b) adding a small positive adjustment for texts with multiple proper nouns ($\text{Final Sentiment} += 0.2$), when reports use real names and facts, it's usually more reliable, (c) applying a hedging reduction using $\text{Final Sentiment} = \text{Weighted Polarity} \times (1 - \text{hedging_score} \times 0.5)$ (hedging words include terms such as, maybe, might, possibly etc.), and (d) moderating extreme sentiment with contrast markers (but, although, however, etc.) using $\text{Final Sentiment} = \text{Weighted Polarity} \times (1 - \text{contrast_score} \times 0.3)$. The Subjectivity score measures how subjective or objective a text is. On a scale from 0.0 (completely objective) to 1.0 (completely subjective). In the code, the base subjectivity is captured and returned without extreme customization applied to the polarity. The code calculates subjectivity based on a pattern-matching approach that identifies words and phrases that typically appear in subjective writing (opinions, evaluations, personal judgements).

3.4.4 Merging Thematic and Sentiment Analysis

Integrating thematic and sentiment analyses findings will provide a comprehensive understanding of Nation Media's framing of the Belt and Road Initiative. The thematic analysis will reveal what dominant subthemes emerge from the newspaper articles and then integrate the corresponding sentiment analysis for each identified subtheme. This examination helps the research to see the pattern that exists across different subthemes and how popular or unpopular they are in the newspaper's framing of the BRI.

3.4.5 Methods of Data Presentation and Analysis

The study's findings were presented in statistical tables containing frequencies and sentiment scores.

Advanced Sentiment Analysis

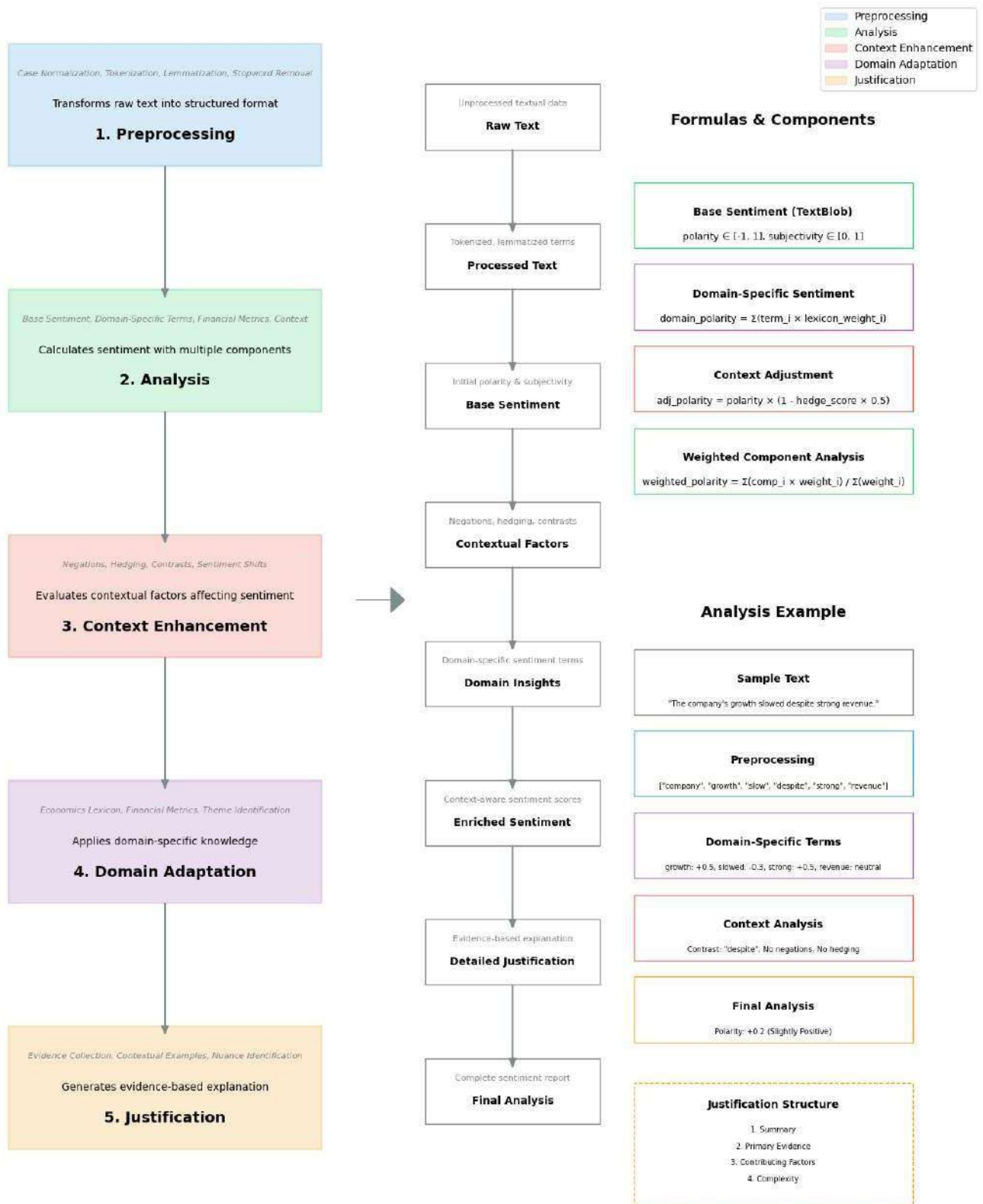


Figure 2
Analysis Pipeline

<https://drive.google.com/file/d/15iXpOJpPFAMLMGcH22a9oGhSatXIMPs2/view?usp=sharing>



3.5 Ethical Considerations

The code implemented for both thematic and sentiment analysis have been deliberately designed to maintain neutrality. The algorithms analyze textual content based on linguistic patterns and semantic meanings without favouring any particular perspective or ideology. The lexicons in this study were not randomly selected, these dictionaries were carefully constructed and are reliable because it draws from several respected, methodically compiled repositories: the Comparative Agendas Project, IPTC, and the ERIC Thesaurus. These resources represent comprehensive, peer-reviewed efforts in political science, media studies, and education, where terms have been specifically selected for their clarity, relevance, and precision in capturing key concepts. Throughout the entire analysis pipeline, the textual data from the newspapers remains untampered. The complex lexicons within the codes serves as a guidance and reference and does not impose predetermined interpretations on the analysed content. Instead, the structure preserves the inherent meaning of the original texts, ensuring that the analysis results reflect the content's actual substance rather than any pre-established ideological perspective.

IV. FINDINGS & DISCUSSION

4.1 Sentiment Distribution across Economic Subthemes in BRI Coverage

In the following section the analysis focuses on the distribution of sentiment across major economic subthemes identified in the BRI coverage.

Table 1

Subtheme Summary

Subtheme	Average Sentiment	Std_Deviation	Count
Business & Industry	0.121445783	0.190795035	166
Debt	-0.012122642	0.24856312	212
Digital Economy	0.193165266	0.218740799	357
Economic Growth & Development	0.231978022	0.227757357	182
Finance & Banking	0.146666667	0.215630771	90
Fiscal & Monetary Policy	0.097088608	0.221667979	158
Infrastructure Development	0.174021739	0.190599789	644
Labor & Employment	0.104545455	0.217282458	121
Poverty & Wealth Distribution	0.165869565	0.204804254	46
Resources & Sustainability	0.074193548	0.19139443	31
Trade & Commerce	0.140036364	0.2201335	275

Table 1 shows the subtheme summary with Infrastructure Development being the dominant subtheme with a total of 644 entries. The least discussed subtheme is Resources & Sustainability with only 31 entries. Economic Growth & Development subtheme has the highest average sentiment at (0.2319), with a total of 182 entries. Debt subtheme has the lowest average sentiment at (-0.0121), with 212 entries, it is worth mentioning that this is the only subtheme with a negative average sentiment. For the merged analyses, the average percentile for all of the text entries is 69.1% positive, 23.2% negative and 7.7% neutral.

This study aimed to understand how the BRI is framed in the media, particularly by Nation Media Group, and what this framing reveals about Kenya's portrayed relationship with China and the BRI. The discussion below concentrates on strategically selected subthemes determined by two main criteria. Firstly, the subthemes with the largest number of entries were selected: Infrastructure Development (644 entries, sentiment score +0.1740) and Digital Economy (357 entries, sentiment score +0.1931). Secondly, subthemes with specific sentiment attributes were selected: Economic Growth & Development subtheme with the highest positive sentiment score (+0.2319); and Debt, which had the only negative sentiment (-0.008). Debt also has the highest standard deviation (0.2485) and was therefore the most diverse and polarized subtheme in sentiment coverage overall.

4.2 Infrastructure Development, Economic Growth & Development and Digital Economy

Infrastructure development is of central importance to Kenya's development strategy in order to alleviate the country's infrastructure gap. The Standard Gauge Railway (SGR) project under the Belt and Road Initiative (BRI) runs from Mombasa, Kenya's largest port city, to the national capital of Nairobi, over a length of 472 km. The costs of financing for this project were funded at a rate of 90 percent by China's Export-Import Bank, and the additional 10 percent was provided by the Kenyan government. This 472 km railroad was funded at a total cost of \$3.8 billion. According to findings by researchers, the Mombasa-Nairobi SGR has increased Kenya's economic growth by 1.5 percent, and has employed 46,000 locals. The Lamu Port-South Sudan-Ethiopia Transport (LAPSSET) and SGR

infrastructure projects support Vision 2030 in the form of providing and cementing the foundation needed to shape Kenya into a newly industrializing middle-income nation that is providing a high quality of life for all of its citizens by 2030.

Kenya's economic resilience comes from the multiple economic sectors it has, many of which have evolved due to infrastructure projects such as the BRI. While agriculture is still the largest employer of the sectors, responsible for 50-65 percent of all jobs and responsible for 25-30 percent of GDP (gross domestic product), it is the services sector which produces the majority of economic output representing roughly 55 percent of GDP as of 2023 (Kenya at a Glance | FAO in Kenya | Food and Agriculture Organization of the United Nations, 2023; O'Neill, 2025; Statista Research Department, 2025). The 50 MW solar power farm in Garissa shows BRI investments are filling important gaps in infrastructure that extend past transportation networks. CJIC together with the Rural Energy Authority (REA) of Kenya built this photovoltaic station which now stands among the biggest solar facilities in Africa.

The market value of Kenya's Information and Communications Technology (ICT) sector has reached USD 11.19 billion in 2025 (Mordor Intelligence, 2025), with analysts projecting growth to USD 14.92 billion by 2030 at a 5.91% compound annual growth rate, establishing the sector as a major economic force. In a recent independent evaluation of the DigiTruck program, Huawei's TECH4ALL initiative, revealed that 93% of respondents reported enhanced work capabilities, 79% shared their digital skills with community members, unemployment rates declined by 6% among participants, and 35% attributed increased income to businesses they started using their newly acquired digital skills (Report Finds That Huawei DigiTruck Training Helps Boost Income, Employment and Entrepreneurship, 2024). Huawei has also been contracted to complete the Konza National Data Centre in the Technopolis which is Kenya's flagship project under Vision 2030, aimed at positioning the country as Africa's leading high-tech hub.

4.3 Debt

It is clear that the BRI is contributing largely to Kenya's economic progress, yet there is always talk about debt concerns around the incredible infrastructures and programs developed by the Chinese. Due to their exposure to and even belief in Western news media regarding the risks of developing nations' involvement in the BRI, it appears that the Kenyan public is divided between blaming the government for financial mismanagement, corruption, and a lack of trust in the Chinese partnership. According to recent data from April 2024, Kenya's debt to China stood at approximately Ksh 755.9 billion (roughly \$5.86 billion based on current exchange rates), making China Kenya's biggest bilateral lender. The debt includes infrastructure projects that typically require Chinese equipment, labor, and other resources as part of the lending terms, which aligns with standard Belt and Road Initiative conditions (Kiprono & Ndiritu, 2025). A major development in BRI debt discussions occurred in 2018 when the East African newspaper raised alarms about Kenya's sovereignty over critical infrastructure. The investigative work of their reporters indicated that Kenya had potentially used one of its most important assets as collateral which caused widespread concern. A lot of study has demonstrated that all main negative comments regarding this financial relationship are unsubstantiated.

4.3.1 The Mombasa Port

Jones and Hameiri (2020) conducted a comprehensive analysis of all loan agreements and found no evidence that the port had been put up as collateral. According to Jones and Hameiri's assessment at Chatham House, Kenya maintained total control over its port infrastructure. In 2019, both the Kenya Ports Authority (KPA) and the Kenyan government issued official statements affirming that the port was not utilised as collateral in any agreement with China. A 2021 review of the loan documents by Johns Hopkins University's China Africa Research Initiative revealed that the port was never included as collateral in any financing deal between Kenya and China (Brautigam et al., 2023)

4.3.2 Sri Lanka's Hambantota Port

The case of Hambantota Port has also been misrepresented. The incident was widely interpreted as China assuming control of the port through loan default. According to research by Brautigam and Rithmire (2021), the transfer of the Hambantota Port was a debt-equity swap between China and Sri Lanka to resolve balance of payment problems unrelated to Chinese loans rather than a 'debt-trap' seizure. Only 10% of Sri Lanka's foreign debt was held by China at the time of the port transfer; the majority of the debt was held by Western financial institutions (Nicholas & Illanperuma, 2023). The Sri Lankan government opted to lease the port due to a necessity for foreign exchange reserves, rather than as a result of China's desire to acquire assets.

4.3.3 Empirical Evidence on BRI loans

The Centre for Global Development published a 2018 report which identified eight BRI countries with high debt distress (Gaines, 2018), more comprehensive research has since emerged. According to 2020 research of 100 BRI loan contracts by Boston University's Global Development Policy Centre, Chinese lenders preferred to renegotiate terms rather than seize assets when borrowers faced repayment difficulties (Gelpert et al., 2021). Deborah

Brautigam's comprehensive analysis revealed that China has never confiscated assets due to loan defaults in African nations. For Kenya specifically, in 2019 and 2020, China renegotiated the terms of payment for the SGR project rather than confiscating any assets as collateral (Anyanzwa, 2020). While Kenya's debt sustainability remains an important concern requiring careful management, reports of Chinese asset confiscation lack substantive evidence.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

These research findings have several implications on various stakeholders and suggest several ways to be used in further research and application. The research demonstrates that advanced computational approaches can efficiently analyze complex topics including the Belt and Road Initiative. Research should extend this method to comparative investigations between different countries and media systems to understand how cultural, social, economic and political elements affect BRI framing. In contrast to simplistic explanations of Chinese influence in Africa, the research reveals complex relationships where African governments determine the terms for their involvement in global initiatives. This plays a significant role in the conception of modern South-South cooperation and the changing nature of international development cooperation.

5.2 Recommendation

The media's role in shaping public opinion and generating support for the Initiative is particularly important as Kenya pursues its Vision 2030 goals while expanding its global partnerships. The study contributes to the comprehension of that role as well as offering methodological advances applicable to similar research in other contexts. One of the most significant development initiatives in existence today is the Belt and Road Initiative. Understanding how it is viewed, understood, and presented in various national settings is essential for academic research, policymaking, and even development action. The study can be used to advance that understanding and draw avenues of further analyses and better development cooperation.

REFERENCES

- Anunne, U. K., Thuy, P. N. P., Yan, J. T. Y., & Lifeng, Y. (2019). Framing analysis of Belt and Road Initiative. *European Scientific Journal, ESJ*, 15(29), 1. <https://doi.org/10.19044/esj.2019.v15n29p1>
- Aslam, A. (2024). A corpus-based analysis of discourses on the Belt and Road Initiative: Corpora and the Belt and Road Initiative. *Corpus-based Studies across Humanities*, 2(1), 209–213. <https://doi.org/10.1515/csh-2024-0004>
- Balahur, A., Steinberger, R., Kabadjov, M., Zavarella, V., van der Goot, E., Halkia, M., Pouliquen, B., & Belyaeva, J. (2013). Sentiment analysis in the news. *arXiv Preprint arXiv:1309.6202*. <https://arxiv.org/abs/1309.6202>
- Brautigam, D., Bhalaki, V., Deron, L., & Wang, Y. (2023). How Africa borrows from China: And why Mombasa Port is not a collateral for Kenya's Standard Gauge Railway. *SAIS China Africa Research Initiative*. <https://www.sais-cari.org/publications-policy-briefs>
- Chong, D., & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science*, 10(1), 103–126. <https://doi.org/10.1146/annurev.polisci.10.072805.103054>
- Chu, J., Hassan, Z., & Sikandar, S. M. (2025). The framing of the Belt and Road Initiative in Indo-Pakistani media. *Humanities and Social Sciences Communications*, 12, 21. <https://doi.org/10.1057/s41599-024-03830-8>
- Communications Authority of Kenya. (2024). *Audience measurement and industry trends report*. https://www.ca.go.ke/sites/default/files/202407/Audience%20Measurement%20and%20Industry%20Trends%20Report%20April-June%202024_1.pdf
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51–58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- FAO. (2023). Kenya at a glance | FAO in Kenya. <https://www.fao.org/kenya/fao-in-kenya/kenya-at-a-glance/en/>
- García-Herrero, A. (2024). What determines global sentiment towards China's Belt and Road Initiative? *Economic and Political Studies*, 13(2), 125–143. <https://doi.org/10.1080/20954816.2024.2379671>
- Gelpert, A., Horn, S., Morris, S., Parks, B., & Trebesch, C. (2021). *How China lends: A rare look into 100 debt contracts with foreign governments*. <https://www.cgdev.org/sites/default/files/how-china-lends-rare-look-100-debt-contracts-foreign-governments.pdf>
- Gui, B., & Hyder, G. (2021). Pakistani print media's view of China and Belt and Road Initiative. *New Media and Mass Communication*, 96. <https://iiste.org/Journals/index.php/NMMC/article/view/56687>
- Malik, T. H., Yu, M., & Hou, J. (2025). A decade of evolving sentiment on the Belt and Road Initiative in elite magazines. *China & World Economy*, 33(4), 155–178. <https://doi.org/10.1111/cwe.12600>

- Miao, J. T. (2021). Understanding the soft power of China's Belt and Road Initiative through a discourse analysis in Europe. *Regional Studies, Regional Science*, 8(1), 162–177. <https://doi.org/10.1080/21681376.2021.1921612>
- Mordor Intelligence. (2025). Kenya ICT market size & share analysis - Industry research report - growth trends. <https://www.mordorintelligence.com/industry-reports/kenya-ict-market>
- Niu, S., & Relly, J. E. (2021). Framing China's Belt and Road Initiative by U.S. and Indian news media (2013–2018). *Newspaper Research Journal*, 42(2), 270–287. <https://doi.org/10.1177/07395329211018864>
- Reynolds, O., O'Dochartaigh, A., Secchi, E., Marshall, D., & Prothero, A. (2023). Framing innovation success, failure, and transformation: A systematic literature review. *Journal of Product Innovation Management*, 42(1), 56–59. <https://doi.org/10.1111/jpim.12706>
- Sullivan, K. (2023). Three levels of framing. *WIREs Cognitive Science*, 14(5), e1651. <https://doi.org/10.1002/wcs.1651>
- Tankard, J. W. (2001). The empirical approach to the study of media framing. In S. D. Reese, O. H. Gandy, Jr., & A. E. Grant (Eds.), *Framing public life: Perspectives on media and our understanding of the social world* (pp. 95–106). Erlbaum. <https://www.taylorfrancis.com/books/edit/10.4324/9781410605689/framing-public-life-stephen-reese-oscar-gandy-jr-august-grant>
- Teo, P., & Xu, H. (2021). A comparative analysis of Chinese and American newspaper reports on China's Belt and Road Initiative. *Journalism Practice*, 17(4), 34–39. <https://doi.org/10.1080/17512786.2021.1981149>
- Gaines, J. (2018, March 4). China's Belt and Road Initiative heightens debt risks in eight countries, points to need for better lending practices. *Center for Global Development*. <https://www.cgdev.org/article/chinas-belt-and-road-initiative-heightens-debt-risks-eight-countries-points-need-better>
- Belt and Road Initiative. (2018, March 29). *World Bank Group*. <https://www.worldbank.org/en/topic/regional-integration/brief/belt-and-road-initiative>
- Anyanzwa, J. (2020, June 22). Renegotiate SGR loan terms to avoid default, House tells Kenyan Treasury. *The EastAfrican*. <https://www.theeastafrican.co.ke/tea/business-tech/renegotiate-sgr-loan-terms-to-avoid-default-house-tells-kenyan-treasury-1443668>
- Jones, L., & Hameiri, S. (2020, August 19). Debunking the myth of "debt-trap diplomacy." *Chatham House*. <https://www.chathamhouse.org/2020/08/debunking-myth-debt-trap-diplomacy>
- Brautigam, D., & Rithmire, M. (2021, February 6). The Chinese "debt trap" is a myth. *The Atlantic*. <https://www.theatlantic.com/international/archive/2021/02/china-debt-trap-diplomacy/617953/>
- Nicholas, B., & Illanperuma, S. (2023, March 2). The real cause of Sri Lanka's debt trap. *The Diplomat*. <https://thediplomat.com/2023/03/the-real-cause-of-sri-lankas-debt-trap/>
- Kiprono, F., & Ndiritu, K. (2025, April 28). Trapped in debt: Ruto's China visit renews focus on Kenya's borrowing binge. *Africa Uncensored*. <https://africauncensored.online/blog/2025/04/28/trapped-in-debt-rutos-china-visit-renews-focus-on-kenyas-borrowing-binge/>
- Statista Research Department. (2025, June 9). Value added to the gross domestic product (GDP) in Kenya as of Q2 2024, by activity. *Statista*. <https://www.statista.com/statistics/1175142/value-added-to-the-gdp-in-kenya-by-activity/>
- O'Neill, A. (2025, June 18). Kenya - Share of economic sectors in the gross domestic product 2017. *Statista*. <https://www.statista.com/statistics/451143/share-of-economic-sectors-in-the-gdp-in-kenya/>