Media Framing Analysis of Ethiopian Conflict: An Approach Combining MAXQDA and NLP for Low-resource Languages

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1 Introduction

Media narratives play a crucial role in shaping public perceptions of conflict, especially in sensitive regions such as Ethiopia's Amhara and Oromia. Framing theory provides a valuable lens for understanding how language, imagery, and representation influence societal understanding by organizing, emphasizing, or omitting certain information (Entman, 1993; Hellman, 2024). Broadly, framing involves the processes by which social texts such as news articles, images, and videos are selected and presented to guide interpretation. Media outlets craft frames to highlight specific features of events, actively shaping perceptions of causes, responsibility, and moral judgments (Entman, 2003, 2010). Media significantly influence public perceptions, shape political conversations, and affect societal reactions to conflict. The stories crafted by media whether emphasizing causes, assigning responsibility, or proposing solutions are not passive reflections of reality but active participants in constructing the social understanding of conflict, thereby impacting societal responses, political discourse, and perceptions of responsibility and peace(Entman, 1993).

This ongoing research employs computer-assisted methods and NLP techniques to analyze media framing of the Ethiopian conflict in Amharic texts, in two phases. The first phase uses qualitative frame analysis with systematic coding, thematic grouping, pattern detection, and visualization via MAXQDA. It investigates how Ethiopian media depict the conflict in Amhara and Oromia regions, focusing on framing strategies and responsibility attribution. Analyzing 150 Amharic newspaper articles from Addis Zemen (government-affiliated) and Addis Standard (independent) covering the conflict between 2023 and 2025. The study is grounded in media framing theory.

Looking ahead, the second phase aims to scale this analysis by developing and applying NLP techniques, including machine learning classifiers, transformer-based models, and topic modeling on a larger dataset of approximately 5,000 annotated articles. This dataset, already collected, aims to capture a wider spectrum of conflict-related discourse, integrating qualitative insights with automated NLP to enable scalable, semi-automated conflict framing detection for low-resource languages. This combined methodology seeks to address challenges unique to in low-resource NLP, including limited annotated data, morphological complexity, and the sensitive nature of conflict discourse, highlighting the potential of combining communication research with advanced NLP to improve multilingual media analysis in conflict zones.

2 Methodology

The organization, coding, and analysis of the first analytical phase of the research employed MAXQDA24, an advanced qualitative data analysis software that supports computer-assisted methods. The process involved:

- **Coding System Development**: Based on established framing theory (Entman, 1993; Verbytska, 2024; Jiang and Riloff, 2021), a hybrid deductive-inductive coding scheme was created, targeting frames such as problem definition, blame attribution, moral evaluation, omission, and socio-economic context. This scheme was refined through pilot coding of 30 articles. This process facilitated the development of a comprehensive and consistent coding system in MAXQDA, ensuring reliable coding across all articles.

- **Coding Procedure**: Individual newspaper articles served as the unit of analysis. Articles

were segmented and codes assigned using MAXQDA. Code memos recorded insights, clarified decisions, and tracked patterns. The process involved identifying frames, analyzing their relationships, and highlighting dominant narratives. We also examined language conveying moral judgments, blame, or praise. Coding was performed by an experienced researcher and validated by a team member for consistency.

- **Visualization and Analysis**: MAXQDA functions such as code frequency, code relations browser, and segment matrices facilitated quantitative measures, including prevalence of frames, co-occurrence patterns, and cross-outlet comparisons.

- **Systematic Digital Workflow**: The coding system, combined with visual tools, increased transparency, reproducibility, and minimized subjective bias, enabling robust qualitative insights within a computational framework. The improvement in transparency and reproducibility is demonstrated through the use of an audit trail and a verifier. The audit trail involved detailed documentation of coding decisions and processes, ensuring consistency across samples. Additionally, having a verifier review the coding helped confirm the reliability of the results.

3   Analysis and Results

Phase one findings: In Addis Zemen, Peace/Negotiation frame dominates at 79.0%, emphasizing the call for peace and amnesty. Responsibility/Accountability follows at 27.0%, with Demonization and Socio-Economic frames at 19.0% and 14.0%, respectively, reflecting blame and socio-economic narratives. It also often employs omission to downplay atrocities. The armed groups are often labeled as "terrorists", "extremists", *"Jawsa"* ("enemies of the nation"), or "aimless thugs", "banditry", "treason", etc., such lexical patterns highlighting blame attribution closely linked to demonization.
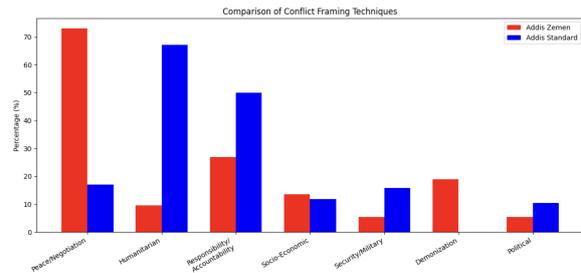

Figure 1: Framing Types in Addis Zemen and Addis Standard

In n contrast, in Addis Standard, the most common frame is the Humanitarian at 67.1%, highlighting a focus on humanitarian issues. Responsibility/Accountability follows at 50.0%, with Peace/Negotiation (17.1%) and Security/Military (15.8%) also notable. Socio-Economic and Political frames appear at 11.8% and 10.5%, respectively. The Demonization frame was not used. Overall, Addis Standard mainly emphasizes humanitarian and accountability themes.

Visualizations of code relations revealed that responsibility and humanitarian frames are interconnected, suggesting a complex narrative structure rather than isolated frames. These insights demonstrate how MAXQDA's functions effectively operationalize qualitative framing concepts and reveal significant narrative patterns.

4   Future Directions-Phase Two

Building on these results, the project plans to implement NLP techniques such as fine-tuned transformer models, topic modeling, and classification algorithms to analyze a larger dataset (5,000 media articles). These methods will incorporate features derived from the initial qualitative analysis, aiming for scalable, semi-automated conflict frame detection in Amharic. This approach addresses NLP challenges in low-resource languages, including morphological richness and limited annotated corpora, by leveraging transfer learning and resource creation.

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