

Hashtags, Emojis and Code-Mixing: Emerging Trends in Digital Communication

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Abstract: The rapid proliferation of social media platforms has fundamentally transformed the landscape of human communication, giving rise to new linguistic practices that challenge traditional notions of language and textuality. This article examines three interrelated phenomena hashtags, emojis, and code-mixing as core semiotic resources in twenty-first-century digital communication. Drawing on a synthesis of recent sociolinguistic research and multimodal discourse analysis, the study argues that these features function not as peripheral embellishments but as integral components of meaning-making in digital discourse. Hashtags operate as indexical "refrains" that structure participation, organize discourse, and connect individual messages to broader social and political movements. Emojis serve as forms of digital paralanguage, conveying tone, affect, and interpersonal nuances that text alone cannot adequately express. Code-mixing, the practice of blending multiple languages within a single utterance, functions as a strategy for identity construction, audience design, and creative expression in multilingual digital spaces. The article explores the intersection of these three trends, demonstrating how they collectively produce polyphonic, hybrid utterances that foreground the multimodal, participatory character of contemporary textuality. It further examines the technological and social challenges posed by these trends, particularly for natural language processing systems and language education, and outlines implications for sociolinguistics, literary studies, and digital communication research.

Keywords: Hashtags, Emojis, Code-Mixing, Digital Communication, Social Media, Multimodality, Sociolinguistics.

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I. INTRODUCTION

Language has always adapted to cultural and technological shifts, yet the rise of social media has accelerated this evolution in unprecedented ways, fundamentally reshaping how individuals communicate, construct identities, and negotiate power[1]. Platforms such as Twitter (now X), Instagram, Facebook, TikTok, and WhatsApp, with billions of users worldwide, have become key arenas where linguistic innovations intersect with ideological struggles. These digital environments have given rise to new communication forms that blend spoken and written language features, fostering informal, creative, and emotionally expressive interaction.

Among the most salient features of contemporary digital discourse are hashtags, emojis, and code-mixing. Hashtags, which emerged on Twitter approximately fifteen years ago, have permeated offline communication, functioning as linguistic and ideological tools that organize

discourse, express stance, and connect individual messages to broader social, cultural, and political movements[2]. Research indicates that hashtags operate as high-visibility linguistic constructs that promote cultural alignment and index ideological stances. They serve as indexical "refrains" that structure participation and intertextual linkage, enabling users to connect individual messages to wider social and political movements. Furthermore, hashtags function as framing mechanisms that place users within cultural narratives, serving as pragmatically dense units that contribute to the perpetuation of cultural norms in online conversation.

Emojis, originally developed in Japan in the late 1990s, have become ubiquitous across digital platforms, serving as visual paralanguage that bridges the expressive voids inherent in text-based communication. Both emoticons and emojis function as forms of digital paralanguage, supplementing textual communication by conveying tone, affect, and interpersonal nuances[3]. They have transcended

their origins as simple emotional indicators to become complex paralinguistic tools that shape meaning, tone, and social relationships in computer-mediated environments. Emojis primarily index stance and tone, including patterned uses of affect and irony, and function as obligatory paralinguistic elements in peer communication while operating within sophisticated social appropriateness norms.

Code-mixing, the practice of alternating between two or more languages within a single utterance, has become increasingly prevalent in multilingual societies, particularly in digital spaces where users draw upon their full linguistic repertoires. This phenomenon performs identity work and audience design, producing polyphonic, hybrid utterances. Code-switching appeared in 50% of posts in a recent study, signalling hybrid cultural identities, and reflecting

transformations in communication norms and cultural dynamics[4].

This article argues that these three phenomena are not merely decorative additions to digital communication but constitute core semiotic resources that fundamentally shape how meaning is constructed, negotiated, and interpreted online. Drawing on recent empirical research and theoretical frameworks from sociolinguistics, multimodality, and discourse analysis, the study examines the functions, patterns, and implications of hashtags, emojis, and code-mixing in contemporary digital communication. It further explores the intersection of these trends, demonstrating how they collectively produce hybrid, multimodal utterances that challenge canonical distinctions between speech and writing.



Fig1 Digital Discourse: The Social Media Accelerant

Fig1 shows, Social media acts as a language accelerant, visualized here. Hashtags organize discourse and connect movements, while emojis fill expressive gaps in text. Code-Mixing, using multiple languages, shapes hybrid identities. These core elements fundamentally redefine how meaning is constructed and interpreted online.

II. LITERATURE REVIEW

➤ Hashtags: From Thematic Markers to Ideological Tools

Hashtags have emerged as one of the most distinctive linguistic features of social media discourse. Initially introduced as a means of categorizing content and facilitating searchability, hashtags have evolved into complex semiotic resources that perform multiple communicative functions. Research has shown that hashtags are extremely varied in their structure and function, with some being syntactically integrated into sentences while others constitute parenthetical material. Calude, Long, and Burnette (2024) argue that hashtags are indeed words, arising through a process of "hashtagging" that is distinct from compounding, and they exhibit considerable syntactic flexibility.

Beyond their structural properties, hashtags function as pragmatic devices that promote cultural alignment and index ideological stances in digital environments. They operate as indexical "refrains" that structure participation and intertextual linkage, enabling users to connect their individual messages to broader social, cultural, and political movements. Hashtags such as #MeToo, #BlackLivesMatter, and #ClimateAction have become powerful tools for social mobilization, demonstrating how linguistic features can facilitate collective action and ideological framing. Research by Snezhko (2025) reveals that hashtags are pragmatically dense units that contribute to the perpetuation of cultural norms in online conversation, serving as high-visibility linguistic constructs that shape discourse and identity.

The dual role of hashtags both as tools for empowerment and as vehicles for marginalization has been documented in empirical research. A study of 500 social media posts found that 68% employed hashtags for resistance and advocacy, while 45% perpetuated stereotypes, illustrating the contested nature of digital discourse. This finding underscores the importance of critical approaches to understanding how hashtags function in relation to power, identity, and ideology.

➤ Emojis: Visual Paralanguage in Digital Discourse

Emojis have become an integral part of everyday digital communication, transcending their origins as simple emotional indicators to become complex paralinguistic tools that shape meaning, tone, and social relationships. Both emoticons and emojis function as forms of digital paralanguage, supplementing textual communication by conveying tone, affect, and interpersonal nuances that would otherwise be lost in text-based interaction.

Research has demonstrated that emojis perform multiple communicative functions. They index stance and tone, including patterned uses of affect and irony. They function as obligatory paralinguistic elements in peer communication while operating within sophisticated social appropriateness norms that govern frequency, context, and relationship dynamics. The use of emojis varies across social demographics, including age, gender, and digital literacy levels, pointing to underlying social hierarchies that shape digital communication practices.

Zappavigna and Logi (2024) have developed a social semiotic model of emoji-language semiosis, demonstrating how emojis, in coordination with language, convey meaning in social media discourse. Their work highlights the multimodal nature of digital communication, where emojis function as semiotic resources that enrich meaning and attitudes in online discourse, creating new norms and expressions that transcend conventional forms of language.

The syntactic integration of emojis within linguistic systems has also been a focus of recent research. Emojis can function as modifiers, predicates, and discourse markers in written communication, contributing to semantic shifts and grammatical innovation in digital interaction. This grammatical evolution reflects the dynamic, adaptive nature of language in digital contexts, where users employ emojis to construct meaning beyond traditional textual boundaries.

➤ Code-Mixing: Identity and Expression in Multilingual Digital Spaces

Code-mixing, the practice of blending two or more languages within a single utterance, is prevalent in multilingual societies and has become increasingly prominent in digital communication. In social media contexts, code-mixing is not solely due to vocabulary limitations but also expressive considerations. Users engage in code-mixing as a creative strategy for identity construction, audience design, and the negotiation of social relationships.

Research has identified various types and functions of code-mixing in digital discourse. Studies of social media conversations have revealed that code-mixing practices reflect complex socio-cultural dynamics and function as an effective communication strategy as well as a means of constructing bilingual identity in the digital era. In the Pakistani context, for example, code-mixing integrates with multimodal elements such as emojis, hashtags, and visual references to enhance communication and express multilingual identities.

The concept of "code-meshing" has been introduced to describe the mixture of various languages and diverse symbol systems, including hashtags, emojis, images, and cultural references, within a single communicative act. This framework recognizes that digital communication involves not only the alternation between languages but also the integration of multiple semiotic modes, reflecting the multimodal, participatory character of contemporary textuality.

Digital affordances such as character limits, auto-correct functions, and hashtag conventions necessitate adaptive linguistic strategies, prompting individuals to engage in code-mixing and code-switching as a means of circumventing technological constraints. This finding highlights the reciprocal relationship between technology and language, where platform features shape linguistic practices, and linguistic creativity, in turn, pushes the boundaries of technological affordances.

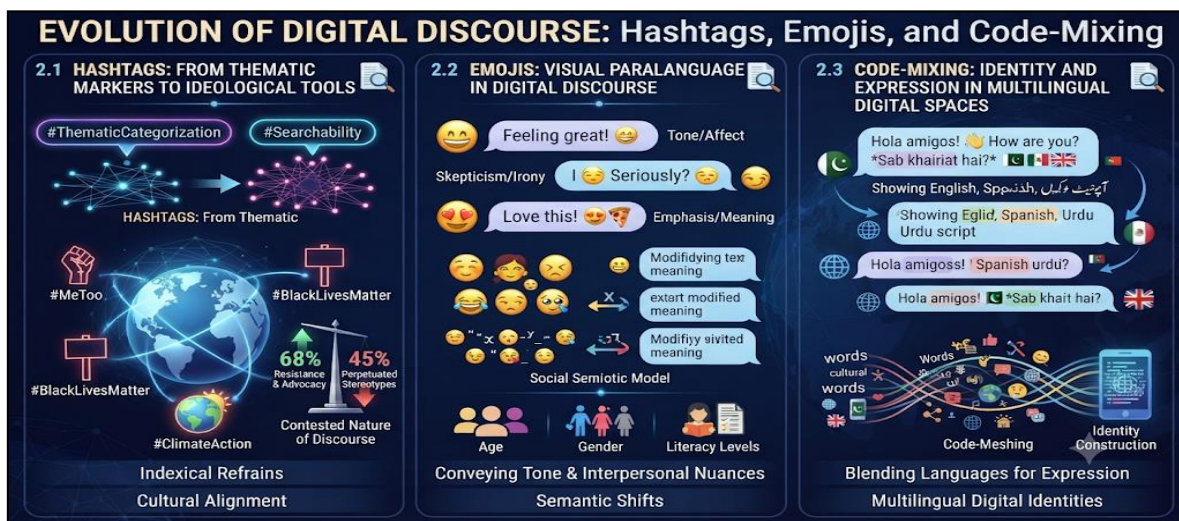


Fig 2 The Mechanics of Digital Discourse: A Visual Synthesis

The infographic, illustrates the evolution of digital discourse. It highlights how hashtags serve as ideological tools for mobilization, emojis function as visual paralanguage to convey nuance and tone, and code-mixing enables multilingual identity construction through "code-meshing," showcasing the multimodal and adaptive nature of modern online communication.

III. METHODOLOGY

This article provides a systematic synthesis of empirical research concerning the evolution and function of hashtags, emojis, and code-mixing within digital communication. By aggregating evidence from a diverse range of methodological traditions—including quantitative content analysis, critical discourse analysis (CDA), and multimodal analysis—this review constructs a holistic understanding of how these semiotic resources operate in online environments.

A primary contribution to this synthesis is the research conducted by Jabeen, Khalid, and Nadeem (2025), who utilized a qualitative multimodal discourse analysis to examine 300 public posts from Instagram and Twitter/X collected between 2021 and 2023. Using keywords such as "MeToo," "WorkLifeBalance," and "StudentLife," the researchers curated a corpus specifically containing emojis alongside either hashtags or code-switching. Their analytical procedure was executed in three distinct stages: identifying

the linguistic and pragmatic functions of each feature, interpreting their aesthetic and literary affordances, and situating these interactions within broader sociocultural contexts.

The review further incorporates a study utilizing a mixed-methods design, which integrated quantitative content analysis with CDA to scrutinize 500 posts. This research focused on how various discourse features functioned to foster innovation, construct digital identities, and either reinforce or challenge existing power structures. Additionally, the study conducted by Calude, Long, and Burnette (2024) is highlighted for its extensive quantitative examination of 3,423 hashtags extracted from 1,216 English-language tweets. This research involved manual coding to evaluate specific linguistic markers, including the grammatical function, syntactic integration, and position of hashtags within the post.

By integrating these varied methodological approaches, this synthesis offers a comprehensive view of digital communication patterns. It reveals consistent trends and implications that extend across diverse linguistic, cultural, and platform boundaries. Ultimately, these findings underscore the complex, adaptive strategies users employ to navigate digital discourse, illustrating the reciprocal relationship between technological affordances and human linguistic creativity.

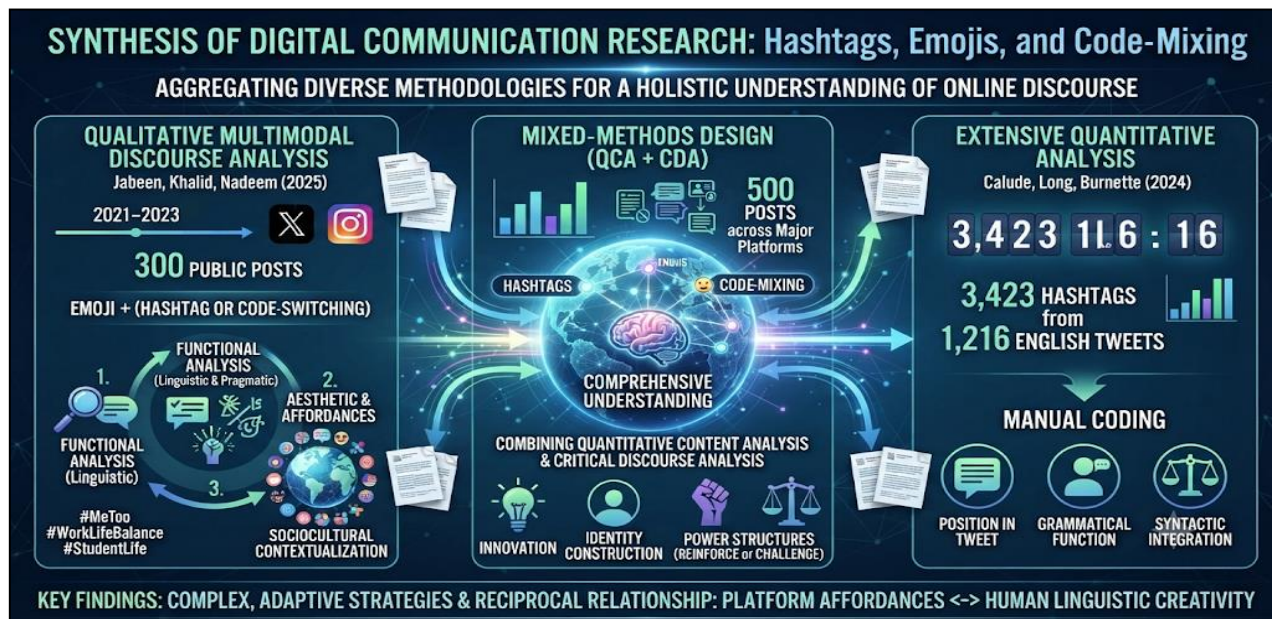


Fig 3 Methodological Synthesis of Digital Communication Research

The image synthesizes methodological research on hashtags, emojis, and code-mixing. It highlights Jabeen et al.'s (2025) multimodal analysis, a mixed-methods study of 500 posts, and Calude et al.'s (2024) quantitative hashtag examination, illustrating how these diverse approaches reveal the complex, adaptive strategies inherent in modern digital discourse.

IV. RESULTS AND DISCUSSION

➤ The Functions of Hashtags in Digital Discourse

The empirical evidence reviewed reveals that hashtags perform multiple functions in digital communication. First, they serve as thematic organizers, enabling users to categorize content and facilitate searchability. Second, they function as indexical "refrains" that structure participation

and intertextual linkage, connecting individual messages to broader social, cultural, and political movements. Third, hashtags operate as ideological tools that express stance and promote cultural alignment.

The structural diversity of hashtags is notable. Some hashtags are syntactically integrated into sentences, functioning as grammatical constituents, while others constitute parenthetical material that is loosely attached to the main text. This flexibility reflects the adaptive nature of hashtags, which have evolved from simple tagging mechanisms to complex linguistic units that can convey meaning, stance, and identity.

Hashtags also play a significant role in social mobilization and activism. The finding that 68% of posts in one study employed hashtags for resistance and advocacy underscores their importance as tools for collective action and ideological framing. However, the dual role of hashtags—also perpetuating stereotypes in 45% of posts—highlights the contested nature of digital discourse and the need for critical approaches to understanding how hashtags function in relation to power and ideology.

➤ *The Role of Emojis in Conveying Tone and Affect*

Emojis have emerged as essential tools for conveying tone, affect, and interpersonal nuance in digital communication. The research reviewed indicates that emojis primarily index stance and tone, including patterned uses of affect and irony. They function as obligatory paralinguistic elements in peer communication, supplementing textual meaning with visual cues that would otherwise be absent in text-based interaction.

The use of emojis is governed by sophisticated social appropriateness norms that vary across contexts, relationships, and demographics. Users deliberately avoid emojis in professional communication contexts, while embracing them in informal peer interactions. This variation reflects underlying social hierarchies and the strategic deployment of emojis for identity performance and affiliative signaling.

Emojis also contribute to semantic shifts and grammatical innovation in digital interaction. They can function as modifiers, predicates, and discourse markers, demonstrating their integration within linguistic systems. This grammatical evolution reflects the dynamic, adaptive nature of language in digital contexts, where users employ emojis to construct meaning beyond traditional textual boundaries.

➤ *Code-Mixing as Identity Construction and Creative Expression*

Code-mixing in digital communication serves multiple functions beyond mere vocabulary supplementation. The research reviewed reveals that code-mixing reflects complex socio-cultural dynamics and functions as an effective communication strategy as well as a means of constructing bilingual identity in the digital era.

Users engage in code-mixing for expressive considerations, drawing upon their full linguistic repertoires to convey meaning, emotion, and identity. In multilingual contexts, code-mixing integrates with multimodal elements such as emojis, hashtags, and visual references to enhance communication and express hybrid identities.

The concept of "code-meshing" captures the integration of multiple languages and semiotic modes within a single communicative act. This framework recognizes that digital communication involves not only the alternation between languages but also the blending of diverse symbol systems, including hashtags, emojis, images, and cultural references. This multimodal, participatory character of contemporary textuality complicates canonical distinctions between speech and writing.

➤ *The Intersection of Hashtags, Emojis, and Code-Mixing*

The research reviewed demonstrates that hashtags, emojis, and code-mixing are not isolated phenomena but intersect and interact in complex ways. Users mesh languages, hashtags, and emojis within a single sentence, producing polyphonic, hybrid utterances that reflect the multimodal nature of digital communication.

This intersection is evident in the way adolescents and young adults combine heritage and social languages with hashtags and emojis to construct digital personas and negotiate multiple identities. The strategic deployment of these resources enables users to express creativity, signal belonging, and frame ideological positions.

The integration of these three trends reflects broader shifts in communication practices, where users draw upon diverse semiotic resources to construct meaning in ways that transcend traditional linguistic boundaries. This has significant implications for sociolinguistics, which must integrate translanguaging and multimodality into analytic units, and for literary studies, which must extend close reading to networked, ephemeral texts.

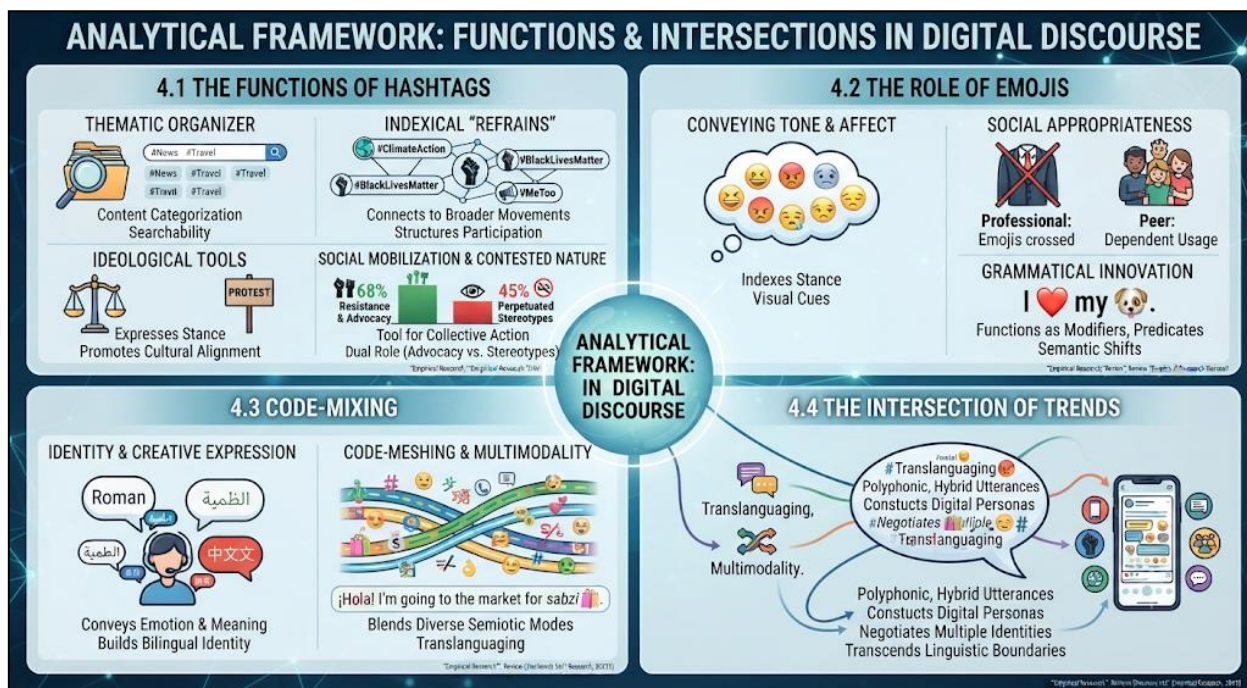


Fig 4 Analytical Framework: The Mechanics of Digital Discourse

The image, illustrates an analytical framework for digital discourse. It breaks down four core pillars: hashtags as thematic and ideological tools, emojis for conveying affective nuance, code-mixing for identity construction, and the intersection of these trends, which collaboratively shape the complex, polyphonic, and multimodal nature of modern communication.

V. CHALLENGES AND FUTURE DIRECTIONS

➤ Technological Challenges

The prevalence of code-mixing, transliteration, and informal grammar in social media discourse poses significant challenges for natural language processing (NLP) systems. Sentiment analysis, emotion recognition, and content moderation become considerably more complex when dealing with code-mixed data that blends multiple languages, scripts, and semiotic modes. The dynamic and context-dependent meanings of emojis and hashtags further complicate automated analysis.

Digital affordances such as character limits and platform-specific conventions shape code-mixing behavior, requiring adaptive linguistic strategies. This reciprocal relationship between technology and language highlights the need for NLP systems that can accommodate the full range of linguistic and multimodal resources used in digital communication.

➤ Social and Educational Implications

The emergence of these new linguistic practices raises important questions about language education and literacy. While social media promotes innovation, creativity, and

lexical expansion, it may also challenge grammatical accuracy and appropriate register use. The informal, hybrid nature of digital discourse has implications for how language is taught and assessed in educational contexts.

Furthermore, the use of code-mixing, hashtags, and emojis reflects and reinforces social hierarchies and cultural norms. Understanding these dynamics is essential for educators, policymakers, and digital communities seeking to promote inclusive and equitable communication practices.

➤ Future Research Directions

Future research should explore several key areas. First, longitudinal studies are needed to track the evolution of these linguistic practices over time and across platforms. Second, cross-linguistic and cross-cultural comparisons would illuminate how hashtags, emojis, and code-mixing function in different linguistic and cultural contexts. Third, research should examine gendered, regional, and diasporic differences in these practices to understand how identity, mobility, and access shape language use online.

Finally, the development of NLP systems capable of processing code-mixed, multimodal data is essential for enabling automated analysis of digital discourse. This requires collaboration between linguists, computer scientists, and communication scholars to develop models that can accommodate the full complexity of contemporary digital communication.

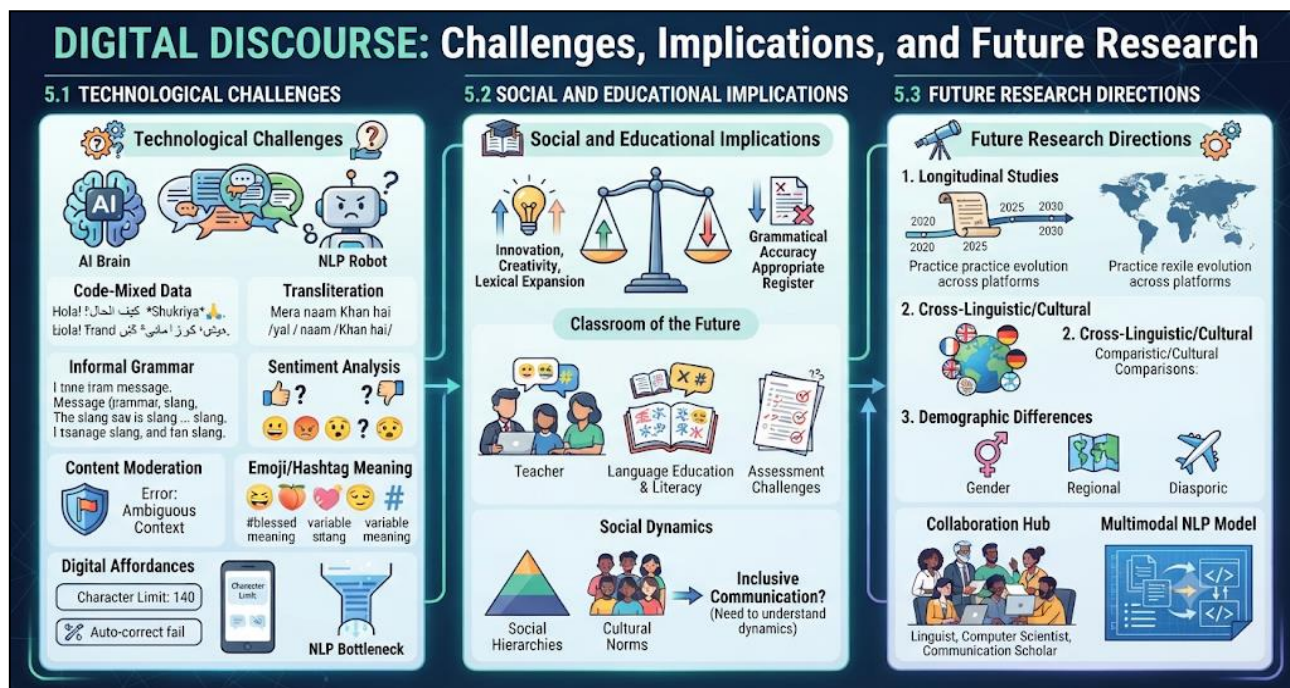


Fig 5 Digital Discourse: Challenges, Implications, and Future Research

The image outlines the current hurdles and future directions for digital discourse. It details technological NLP challenges stemming from code-mixing, examines shifting educational and social norms, and advocates for multidisciplinary research to better understand these evolving, complex communication patterns.

VI. CONCLUSION

Hashtags, emojis, and code-mixing have emerged as defining features of twenty-first-century digital communication, functioning not as peripheral embellishments but as core semiotic resources that shape how meaning is constructed, negotiated, and interpreted online. Hashtags operate as indexical "refrains" that structure participation and intertextual linkage, connecting individual messages to broader social and political movements. Emojis serve as forms of digital paralanguage, conveying tone, affect, and interpersonal nuances that text alone cannot express. Code-mixing functions as a strategy for identity construction, audience design, and creative expression in multilingual digital spaces.

These three trends intersect and interact in complex ways, producing polyphonic, hybrid utterances that foreground the multimodal, participatory character of contemporary textuality. The integration of languages, hashtags, and emojis within a single communicative act reflects broader shifts in communication practices, where users draw upon diverse semiotic resources to construct meaning in ways that transcend traditional linguistic boundaries.

The challenges posed by these trends particularly for NLP systems, language education, and content moderation underscore the need for interdisciplinary approaches that

integrate insights from linguistics, computer science, and communication studies. By treating online discourse as both a linguistic phenomenon and a vernacular literary form, researchers can develop more comprehensive frameworks for understanding the dynamic, multimodal nature of digital communication.

As social media continues to evolve, so too will the linguistic practices that characterize it. The study of hashtags, emojis, and code-mixing offers valuable insights into the adaptive, creative, and socially situated nature of language in the digital age, with implications for how we understand communication, identity, and culture in an increasingly interconnected world.

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