

# The Impact of Social Media Technologies on Language Dynamics: A Sociolinguistic Analysis of Code-Switching and Code-Mixing in Communication

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**Abstract.** *This study examines the sociolinguistic impact of social media technologies and digital communication platforms on the contemporary dynamics of the Azerbaijani language, with particular attention to its lexical and syntactic structure. The primary focus of the study is on instances of “code-switching” and “code-mixing” observed between Azerbaijani and other languages, particularly English and Russian, during digital communication. The study draws on digital materials collected from Instagram, WhatsApp, TikTok, and X between September 2025 and February 2026. An initial dataset consisting of approximately 120,000 words of digital text was compiled, from which 100 instances of code-switching and code-mixing were selected for structural and functional analysis. The examples were categorized according to Poplack’s classification into intra-sentential, inter-sentential, and tag-switching categories. The quantitative analysis revealed that intra-sentential switching accounted for 57%, inter-sentential switching for 28%, and tag-switching for 15% of the analyzed cases. The qualitative analysis indicates that code-switching can be associated with such functions as communicative economy, terminological convenience, audience adaptation, expressiveness, and digital identity. The study also demonstrates that the adaptation of foreign-origin lexical items to the morphological system of Azerbaijani should be considered as a distinct process within digital language practices. The findings suggest that digital multilingualism constitutes an important component of the contemporary development dynamics of the Azerbaijani language.*

**Keywords:** *digital sociolinguistics, social media, code-switching, code-mixing, Azerbaijani language, multilingualism, digital communication, digital corpus*

## Introduction

The rapid development of digital technologies in the twenty-first century has brought about significant changes in human communication patterns. Social networking sites, instant messaging applications, microblogging platforms, and video-based communication channels have, to a certain extent, blurred the traditional boundaries between written and spoken communication, giving rise to new communicative modes. In digital communication, writing, speech, visual elements, emojis, hyperlinks, hashtags, and other multimodal resources can be combined within the same communicative act. Tagg (2015) regards digital communication not merely as a technological medium, but as a communicative environment that enables the observation of changing forms of language use, identity, and social interaction.

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Language choice in social media environments is likewise affected by this transformation. In particular, multilingual users can alternate between and combine different linguistic resources within the same communicative act and employ them functionally for particular social purposes. Androutsopoulos's (2014) study of linguistic repertoires in social networking demonstrates that users' language choices are closely related to network audiences, interaction, and sharing practices. Thus, social media is not merely a space in which existing language forms are transmitted; it is also a social environment in which new linguistic practices emerge.

In sociolinguistic literature, the alternation between two or more language codes within the same communicative process is described as code-switching, whereas the combination of elements belonging to different languages within the same syntactic structure is generally described as code-mixing. Poplack's (1980) study is of particular importance in the classical classification of the structural features of code-switching. The author distinguished between intra-sentential and inter-sentential code-switching, as well as the switching of short discourse elements into another language. In her 2013 authorial introduction to the classic study, Poplack emphasized that distinguishing code-switching from borrowing remains an issue discussed in subsequent research (Poplack, 2013).

Code-switching has not only structural but also grammatical characteristics. Myers-Scotton's (1993) Matrix Language Frame model is one of the widely used theoretical models for explaining the functional relationship between the matrix language and the embedded language in mixed speech. According to this approach, the principal syntactic and morphological frame in a mixed construction may be provided by one language, while the other language contributes lexical or other elements to that frame.

These processes may become more complex in digital environments. On the one hand, social media users take into account the need for rapid and concise communication; on the other hand, they employ linguistic resources appropriate to their audience, topic, and social identity. Examining Facebook interactions, Halim and Maros (2014) found that code-switching may serve various functions, including quotation, addressee specification, repetition, explanation, emphasis, emotional expression, and communicative economy.

The Azerbaijani language is also part of this global digital linguistic environment. In particular, the widespread use of English in technology, social media, marketing, and popular culture has created conditions for numerous lexical transfers in Azerbaijani digital communication. Gadirli (2024), who examines the interaction between the Azerbaijani language and digital technologies, emphasizes the importance of studying changes occurring at the structural and lexical levels of the language from a sociolinguistic perspective. Qəhrəmanova's (2026) study of the semantic and syntactic features of Azerbaijani in the context of digitalization and artificial intelligence likewise demonstrates the significance of the interaction between the Azerbaijani language and digital technologies for contemporary linguistics.

Within this context, the main aim of the study is to identify the structural types and possible communicative functions of code-switching and code-mixing between Azerbaijani and other languages on social media platforms.

The study seeks to answer the following research questions:

1. Which types of code-switching and code-mixing between Azerbaijani and other languages are most frequently observed on social media platforms?
2. What proportion of intra-sentential, inter-sentential, and tag-switching occurrences is observed in digital communication environments?

3. What communicative, lexical, audience-related, and identity-related factors can be observed in the occurrence of code-switching?
4. In what forms is the integration of foreign-language elements into the morphological and syntactic structure of Azerbaijani manifested?

### *Theoretical Framework*

Code-switching is a broad sociolinguistic phenomenon referring to alternation between languages during multilingual communication. Poplack's (1980) classical classification distinguishes three principal forms of code-switching: intra-sentential switching, inter-sentential switching, and tag-switching. Intra-sentential switching refers to the use of elements from different languages within the syntactic structure of a single sentence, whereas inter-sentential switching involves a change of language code when moving from one sentence or discourse unit to another. Tag-switching is characterized by the use of interjections, discourse markers, or short fixed expressions in another language.

Poplack's 2013 publication is significant because it reconsiders the classical study within a subsequent scholarly context. In this work, the author demonstrates that distinguishing code-switching from borrowed elements entering a language remains a subject of theoretical and methodological debate (Poplack, 2013).

This distinction is particularly important for the analysis of digital language data. For example, it would not be methodologically appropriate to automatically classify every occurrence of words such as “deadline,” “feedback,” and “update” as code-switching. If a foreign-origin unit has become established in a user's linguistic repertoire and has been adapted to the morphological structure of Azerbaijani, another form of language contact—borrowing or adaptation—must also be taken into account.

This issue is further clarified in the study by Poplack, Robillard, Dion, and Paolillo on language-contact phenomena. The authors distinguish between code-switching, established loanwords, and newly emerging nonce borrowings, demonstrating that phonetic and morphosyntactic integration do not constitute the same process. According to their findings, morphosyntactic integration may serve as a more reliable indicator for distinguishing language-contact phenomena (Poplack et al., 2020). Although the article was made available online on Cambridge Core in 2026, its bibliographic publication information belongs to the 2020 issue of *Language*.

Myers-Scotton's (1993) Matrix Language Frame model explains the structural relationship between language elements in mixed sentences. Within this model, the matrix language provides the principal syntactic and morphological frame, while the embedded language contributes particular elements to that frame. Forms such as “postlamaq,” “like eləmək,” and “check etmək” in Azerbaijani can therefore be analyzed not only from a lexical perspective but also in terms of morphological integration.

### **Methods**

A mixed-methods approach was employed in the study. The quantitative analysis aimed to determine the frequency of code-switching and code-mixing according to their structural types, whereas the qualitative analysis sought to describe the communicative contexts in which these switches occurred.

The data were compiled from digital language material observed on Instagram, WhatsApp, TikTok, and X between September 2025 and February 2026. The initial database consisted of a digital corpus of approximately 120,000 words. A total of 100 instances of code-switching and code-mixing were selected from this corpus for structural and functional analysis.

Examples obtained from Instagram, TikTok, and X were based on publicly accessible digital texts, whereas the WhatsApp material consisted of voluntarily provided examples of private correspondence. Personal names, usernames, telephone numbers, and other identifying information were excluded from the analysis or anonymized.

The examples were coded into three principal categories in accordance with Poplack's (1980, 2013) classification:

1. *Intra-sentential switching* – the use of a word, expression, or construction belonging to another language within a sentence;
2. *Inter-sentential switching* – a change of language code between sentences or discourse units;
3. *Tag-switching* – the use of interjections, discourse markers, and short expressions in another language.

The distinction between code-switching and lexical borrowing was also taken into consideration. Hybrid forms adapted to the morphological system of Azerbaijani, such as “postlamaq,” “like eləmək,” and “cancel eləmək,” were noted separately, and an effort was made not to equate them automatically with code-switching at the level of the entire sentence. This approach is consistent with the findings of Poplack and colleagues concerning the differentiation of language-contact phenomena on the basis of morphosyntactic integration (Poplack et al., 2020).

Descriptive statistics were used for the quantitative analysis. The frequency of each category was calculated using the following formula:

$$\text{Percentage (\%)} = (\text{number of instances in the category} / \text{total number of instances}) \times 100$$

The jamovi software was used for the initial statistical processing of the data and for preparing the tables.

In the qualitative analysis, the communicative contexts in which code-switching occurred were examined. Particular attention was paid to functional aspects such as communicative economy, lexical choice, technological terminology, audience adaptation, expressiveness, and digital identity.

## Results

Various forms of code-switching and code-mixing between Azerbaijani and other languages were observed in the 100 digital samples analyzed. The most frequently observed language pairing was Azerbaijani and English, while Russian-origin lexical elements were also found in some examples.

**Table 1**  
*Structural types of Code-Switching instances*

| Type of code-switching     | Description                                                                      | N   | %    |
|----------------------------|----------------------------------------------------------------------------------|-----|------|
| Intra-sentential switching | Use of an element from another language within a sentence                        | 57  | 57%  |
| Inter-sentential switching | Change of language code between sentences                                        | 28  | 28%  |
| Tag-switching              | Use of a short discourse marker, interjection, or expression in another language | 15  | 15%  |
| Total                      | —                                                                                | 100 | 100% |

Source. Compiled by the author.

As shown in Table 1, the highest proportion belongs to the intra-sentential switching category. In 57 instances, representing 57% of the total sample, words and expressions from another language were used within sentences constructed in Azerbaijani.

Among the observed examples, lexical units such as “deadline,” “check,” “feedback,” “update,” “story,” “like,” and “target” were particularly noticeable. In some cases, these words received Azerbaijani morphological markers: “deadline-ı” [the deadline + Azerbaijani accusative marker], “story-ni” [the story + Azerbaijani accusative marker], “like eləmək” [to like], “check etmək” [to check], and so forth.

This finding demonstrates that digital language data involve not only switching between two languages but also the adaptation of foreign-origin elements to the morphological system of Azerbaijani.

Inter-sentential switching constituted the second most frequent category, with 28 instances. In these cases, users expressed the main part of an idea in Azerbaijani and then switched to English in the following sentence. For example:

“Mən artıq təqdimatı bitirdim. By the way, did you see the new update?”  
[I have already finished the presentation. By the way, did you see the new update?]

Here, the language shift occurs at a syntactic sentence boundary and is associated with a new idea, a question, or an additional communicative purpose.

Tag-switching accounted for 15% of the examples. This category included discourse elements such as “honestly,” “anyway,” and “by the way.” These units can establish an attitude, emphasis, or discourse connection without altering the main propositional content.

### *Observations by Platform*

On Instagram and TikTok, code-mixing was observed primarily in short post texts, comments, and expressions associated with visual content. On these platforms, the retention of English-language terms related to social media and popular culture was particularly noticeable.

In the WhatsApp examples, code-mixing occurred mainly in everyday, informal, and interactive communication. Here, language choice appeared to be closely associated with interpersonal relationships, established communication habits, and topic.

On the X platform, short written texts expressing opinions, reactions, and attitudes predominated. In this environment, code-switching was observed to serve the functions of shortening discourse and retaining certain expressions in their original form.

### *Functional Characteristics*

The qualitative analysis indicated that code-switching and code-mixing could be associated with several communicative functions.

The first function is communicative economy and lexical convenience. Users may express certain digital concepts through widely familiar English-origin terms. Since units such as “update,” “story,” “feedback,” “post,” and “like” are familiar to users in digital communication contexts, they may be selected more quickly than their Azerbaijani equivalents.

The second function is the influence of digital terminology. English-derived terms are particularly widespread in technology, marketing, design, and social media. However, the absence of an

Azerbaijani equivalent for every foreign term, or the limited circulation of an existing equivalent among users, may contribute to the retention of the foreign form.

The third function is expressiveness and stylistic choice. Memes, social media trends, popular expressions, and Internet slang may produce a particular communicative effect when retained in their language of origin. In such cases, code choice is related not only to the transmission of content but also to the stylistic and emotional characteristics of the expression.

The fourth function is audience adaptation. Users may select particular linguistic elements with consideration for the linguistic repertoire of their interlocutors. Androutsopoulos (2014) emphasizes the relationship between linguistic repertoire, audience, and sharing practices in social networks. The findings of Halim and Maros (2014) likewise demonstrate that online code-switching can perform functions such as addressee specification and message clarification.

The fifth function is digital identity. Social media users can display particular social and cultural affiliations through their language choices. From this perspective, the use of English may be associated with global digital culture. However, this finding should not be interpreted as a universal claim about users' motivations, but rather as a possible social function of the communicative practice observed.

## Discussion

The findings of the study demonstrate certain parallels with previous research in digital sociolinguistics. Cárdenas-Claros and Isharyanti (2009) showed that code-switching and code-mixing in Internet chatting may be associated with communicative context and terminological needs. Their study represents one of the earlier examples demonstrating that code-switching in digital written communication does not necessarily occur randomly but may emerge under specific communicative conditions.

Halim and Maros (2014) identified a number of communicative functions of code-switching in Facebook interactions. Their identification of functions such as quotation, explanation, emphasis, emotional expression, and communicative economy is relevant for comparison with the functional patterns observed in the present study. Nevertheless, the findings of studies conducted across different languages and platforms should not be treated as directly equivalent.

Sutrisno and Ariesta (2019) examined the language use of social media influencers on Instagram and demonstrated that code-mixing can be systematically observed in social media content. This finding suggests that the code-mixing patterns observed in the Instagram environment in the present study may be characteristic of digital communication.

Hayati and Anindhita (2024) found that students use code-switching and code-mixing on social media, involving English, Indonesian, and Javanese. This finding suggests that the use of multilingual repertoires by young users in digital environments is a recurring phenomenon across different social and linguistic contexts.

The approach of Androutsopoulos (2014), meanwhile, demonstrates the importance of studying digital language use not merely as structural change but within the framework of social interaction and relationships with audiences. From this perspective, code-switching observed in the Azerbaijani social media environment should not be evaluated merely as the “use of foreign words”; its communicative context should also be taken into account.

The status of Azerbaijani in the digital environment is of interest not only in relation to these general tendencies but also in terms of the language's own structural characteristics. Gadirli (2024) considers the impact of digital communication technologies on Azerbaijani in the context of sociolinguistic and structural changes. Qəhrəmanova's (2026) study brings into focus the interaction between digitalization, artificial intelligence, and the agglutinative morphosyntactic characteristics of Azerbaijani. These approaches demonstrate that the digital linguistic environment represents an important field of research for understanding the future developmental dynamics of Azerbaijani.

One of the most important findings of our study is that intra-sentential code-switching has the highest proportion, at 57%. This figure indicates that, within the Azerbaijani digital language material analyzed, the insertion of foreign-language elements into the syntactic structure of the principal language is widespread. However, this result should not be generalized to all Azerbaijani social media users. Since the sample consists of 100 instances, the figures reflect the characteristics of the particular dataset.

The high proportion of intra-sentential switching is also noteworthy from the perspective of Myers-Scotton's Matrix Language Frame model. In many examples, Azerbaijani provides the principal syntactic frame, while English-origin units are inserted into that frame. In examples such as “feedback almaq” [to receive feedback], “story paylaşmaq” [to share a story], “check etmək” [to check], and “like etmək” [to like], the foreign-origin lexical element is used in a manner compatible with the syntactic and morphological system of Azerbaijani.

Nevertheless, it would not be methodologically appropriate to classify all such forms as “code-switching” at the same level. The later research of Poplack and colleagues on language contact demonstrates the need to distinguish code-switching from established borrowing and nonce borrowing. Consequently, future studies of digital Azerbaijani should measure not only the frequency of foreign elements but also their degree of morphological integration, stability of use, and distribution across different speakers.

This approach also requires special investigation of hybrid forms such as “postlamaq” [to post], “like etmək” [to like], and “cancel etmək” [to cancel]. On the one hand, such forms demonstrate that foreign lexical elements can enter the agglutinative morphological system of Azerbaijani; on the other hand, they indicate the emergence of new word-formation processes in digital communication environments.

## Conclusion

The study examined the influence of social media technologies on multilingual communication practices in Azerbaijani through examples of code-switching and code-mixing. Analysis of 100 examples selected from an initial digital corpus of 120,000 words demonstrated that code-switching occurs in various structural forms.

The highest proportion belonged to the intra-sentential switching category, accounting for 57% of the sample. Inter-sentential switching accounted for 28%, while tag-switching accounted for 15%. These findings indicate that, within the specific sample analyzed, intra-sentential language switching was more widespread.

The qualitative analysis demonstrated that code-switching and code-mixing could be associated with functions such as communicative economy, terminological convenience, expressiveness, audience adaptation, and digital identity. At the same time, it is not possible to conclude that these functions constitute the same motivations for all users.

Another important finding concerns the adaptation of foreign-language elements to the morphological system of Azerbaijani. Forms such as “deadline-ı” [the deadline + Azerbaijani accusative marker], “story-ni” [the story + Azerbaijani accusative marker], “check etmək” [to check], “postlamaq” [to post], and “like etmək” [to like] demonstrate that lexical contact in digital communication may be accompanied by morphological integration. This process can theoretically be related to the findings of Poplack and colleagues concerning the importance of morphosyntactic integration in language-contact phenomena.

However, the limitations of the study should also be taken into account. First, the analytical sample of 100 instances does not represent the language behavior of Azerbaijani social media users as a whole. Second, because user profiles and communicative characteristics differ across platforms, direct cross-platform comparisons should be made cautiously. Third, the motivations underlying observed language switching can only be inferred to a limited extent from textual data; future studies may employ interviews and survey methods to investigate users' subjective motivations more precisely.

### Recommendations

1. *Systematic updating of digital terminology.* It is advisable to develop functional and user-friendly Azerbaijani terminological equivalents in the fields of technology, social media, artificial intelligence, and digital marketing.
2. *Expansion of the Azerbaijani digital corpus.* The creation of a dedicated digital subcorpus consisting of social media, blogs, forums, and instant-messaging data could provide an important database for future sociolinguistic and NLP research.
3. *Distinguishing code-switching from borrowing.* Future studies should not be limited to counting foreign words; they should also take into account the degree to which such elements are integrated into the morphological and syntactic system of Azerbaijani.
4. *Expansion of cross-platform comparison.* In addition to Instagram, TikTok, WhatsApp, and X, YouTube, Telegram, and other digital communication platforms could be incorporated into future research to provide a broader picture.
5. *Longitudinal corpus research.* To identify the dynamic nature of digital language change, longitudinal studies comparing the use of the same linguistic units across different years are recommended.

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