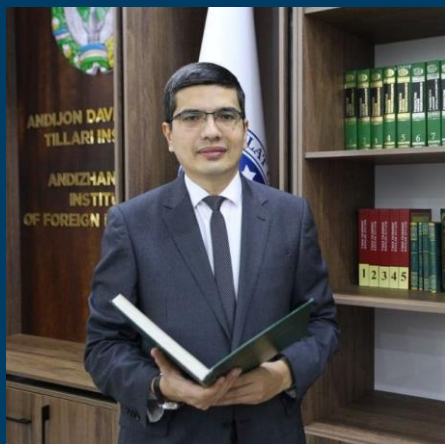




Dilshodbek Rustamov

Abduvakhidovich

dilshodbekrustamov01@gmail.com

Andijon davlat chet tillari instituti rektori,
Andijon, O‘zbekiston

SEMIOTIC COMPRESSION, CULTURAL RESIDUE, AND INTERPRETIVE RETENTION IN ENGLISH-UZBEK DIGITAL TRANSLATION: A CORPUS-BASED STUDY OF INTERCULTURAL TRANSFER ACROSS MEDIA DISCOURSE

May

2026 Abstract This article examines the translation of culture-embedded lexical formations from English into Uzbek within digitally mediated intercultural communication. The study is based on a bilingual corpus of 480 translation fragments collected from streaming subtitles, diplomatic briefings, tourism platforms, commercial advertising, and online journalism published between January 2021 and February 2025. By combining quantitative distributional mapping with contextual interpretation, the investigation evaluates the extent to which culturally saturated units preserve their semantic density, pragmatic orientation, emotional intelligibility, and contextual plausibility after transfer into Uzbek. The results show that literal transfer produced communicative distortion in 57% of the analyzed excerpts, whereas explanatory expansion, cultural substitution, and idiomatic recasting generated noticeably higher interpretation accuracy among bilingual readers. The most recurrent sources of meaning loss were institutional metonymy, ritualized expressions, political irony, consumer metaphors, and internet-born idioms whose cultural load could not be recovered through lexical correspondence alone. The article proposes semantic compression as an evaluative category that captures the reduction of culturally encoded signification during cross-linguistic transfer, and cultural residue as a category describing fragments of meaning that remain only partially accessible in the receiving discourse. The findings suggest that English-Uzbek digital translation requires not mechanical equivalence but discursive calibration, contextual reconstruction, and audience-sensitive interpretive design.

Keywords: English-Uzbek translation; semantic compression; cultural residue; intercultural communication; digital discourse; corpus linguistics; interpretive retention; pragmatic reconstruction.

INTRODUCTION The accelerated circulation of digital texts has reshaped the conditions under which culturally marked expressions travel across languages. Streaming platforms, diplomatic media, online journalism, tourism portals, and algorithmically distributed advertising now transmit compact English expressions into speech communities whose historical memory, symbolic repertoires, and rhetorical expectations differ substantially from those of the source environment. Under such circumstances, translation cannot be treated as a secondary linguistic operation; rather, it functions as a form of intercultural mediation through which social values, collective memories, ideological positions, and audience expectations are either preserved, transformed, or weakened.

English-Uzbek translation is particularly exposed to this problem because many culture-embedded English formations enter Uzbek discourse through media channels before they acquire stable equivalents. Expressions such as glass ceiling, echo chamber, cancel culture, deep state, red tape, soft power, and virtue signaling are not merely lexical combinations; they are compact carriers of institutional experience, political evaluation, social criticism, and shared cultural inference. When they are translated by direct lexical replacement, the target text may retain a surface meaning while losing the broader interpretive field that made the original expression persuasive, ironic, or socially recognizable [1, p. 41].

The difficulty becomes more pronounced in digital communication, where screen limits, headline compression, subtitle timing, and advertising brevity require translators to condense information without depriving the expression of its cultural charge. A subtitle may allow only a few seconds of reading time, a banner slogan may tolerate only one condensed phrase, and a diplomatic press release may demand institutional precision without explanatory excess. Therefore, translators face a double constraint: they must prevent semantic impoverishment while also satisfying the formal restrictions imposed by the medium [11, p. 18].

International scholarship has long recognized that translation is shaped by cultural expectation, textual function, and institutional positioning. Bassnett regards translation as an historically conditioned practice rather than a neutral transfer of words [1, p. 44]; House approaches adequacy through the relation between textual function and contextual acceptability [2, p. 72]; Tymoczko stresses that translation participates in uneven relations between languages and cultural centers [3, p. 116]; Hermans demonstrates that translational regularities are produced by wider textual systems [4, p. 54]; and Wierzbicka shows that culturally salient words often encode social values that cannot be replaced by dictionary correspondence [5, p. 90]. These perspectives are valuable for the present inquiry because they shift attention from isolated lexical meaning to discursive reception.

Nevertheless, English-Uzbek research devoted specifically to culture-embedded digital translation remains insufficiently developed. Existing local studies have provided important observations on pragmat linguistics, phraseology, and linguocultural categorization [15, p. 118; 16, p. 139], yet corpus-based analysis of digital discourse, reader interpretation, and semantic retention has not been explored with adequate statistical precision. The present article addresses this gap by examining how English culture-embedded units are reconstructed in Uzbek across five digital discourse domains and by measuring the interpretive consequences of different translation procedures.

Research questions

1. Which forms of semantic compression occur most frequently in English-Uzbek digital translation?
2. Which translation procedures preserve the highest level of interpretive retention?

3. How do discourse domain and reader profile influence comprehension of culture-embedded units?
4. What types of cultural residue remain after translation even when semantic clarity appears to be achieved?



Figure 1. Analytical trajectory of intercultural transfer and semantic compression.

MATERIALS AND METHODS

The study adopts a mixed design in which corpus-based quantification is combined with contextual interpretation. The corpus contains 480 bilingual fragments drawn from five discourse domains: streaming subtitles, diplomatic briefings, commercial advertising, online journalism, and tourism platforms. The textual material was selected from publicly accessible digital sources published between January 2021 and February 2025. Each fragment contains one English culture-embedded lexical formation and its Uzbek translation or proposed Uzbek rendering.

A unit was included in the corpus only when it satisfied at least two criteria: it contained culturally marked inference beyond dictionary meaning; it required contextual knowledge for accurate reception; it occurred in a digitally mediated text; or it displayed potential semantic loss during transfer into Uzbek. Repeated formulae were excluded unless their translation varied across discourse domains. This selection procedure was intended to prevent frequency inflation and to ensure that the corpus represented interpretive complexity rather than mere lexical recurrence.

The analytical procedure consisted of five stages. First, culture-embedded formations were extracted and annotated according to semantic type. Second, each Uzbek rendering was classified by translation procedure. Third, the degree of preserved meaning was assessed through a Semantic Retention Index. Fourth, bilingual participants evaluated selected fragments for clarity, emotional intelligibility, and contextual plausibility. Fifth, the numerical results were compared with qualitative observations in order to identify recurrent patterns of semantic compression and cultural residue.

The Semantic Retention Index was calculated through four evaluative parameters: denotative preservation, pragmatic force, cultural recoverability, and stylistic appropriateness. Each parameter was scored on a 0-25 scale, and the cumulative score produced a maximum value of 100. Scores below 50 were interpreted as low retention, scores between 50 and 74 as moderate retention, and scores of 75 or above as high retention. Although this index cannot exhaust all forms of cultural interpretation, it offers a transparent basis for comparing translation procedures across discourse domains.

Reader response validation involved 96 bilingual respondents aged between 20 and 37. Participants were divided into two groups according to media exposure: high-exposure respondents who regularly consumed English-language digital media and moderate-exposure respondents whose contact with English occurred mainly through formal education. The

respondents evaluated 60 representative excerpts using a structured questionnaire. Inter-coder agreement during category annotation reached 0.84, which indicates strong consistency in the classification of semantic type and translation procedure.

Table 1. Corpus composition by discourse domain

Discourse domain	Fragments	Share (%)	Dominant text form
Streaming subtitles	132	27.5	dialogic audiovisual discourse
Diplomatic briefings	76	15.8	institutional public communication
Commercial advertising	98	20.4	persuasive digital microtext
Online journalism	104	21.7	news commentary and editorial prose
Tourism platforms	70	14.6	promotional cultural description
Total	480	100.0	multidomain digital corpus

Table 2. Semantic Retention Index: parameters and scoring criteria

Analytical category	Operational indicator	Scoring criterion
Denotative preservation	basic referential meaning remains accessible	0-25
Pragmatic force	intended evaluation, irony, politeness, or emphasis is retained	0-25
Cultural recoverability	reader can infer the relevant cultural background	0-25
Stylistic appropriateness	register and genre expectations are respected	0-25
Semantic Retention Index	sum of all parameters	0-100

Table 3. Participant profile for reader response validation

Participant group	Respondents	Age range	Profile
High-exposure bilinguals	48	20-37	regular users of English-language digital media
Moderate-exposure bilinguals	48	20-37	English mainly through formal education
Total	96	20-37	Uzbek-speaking bilingual readers

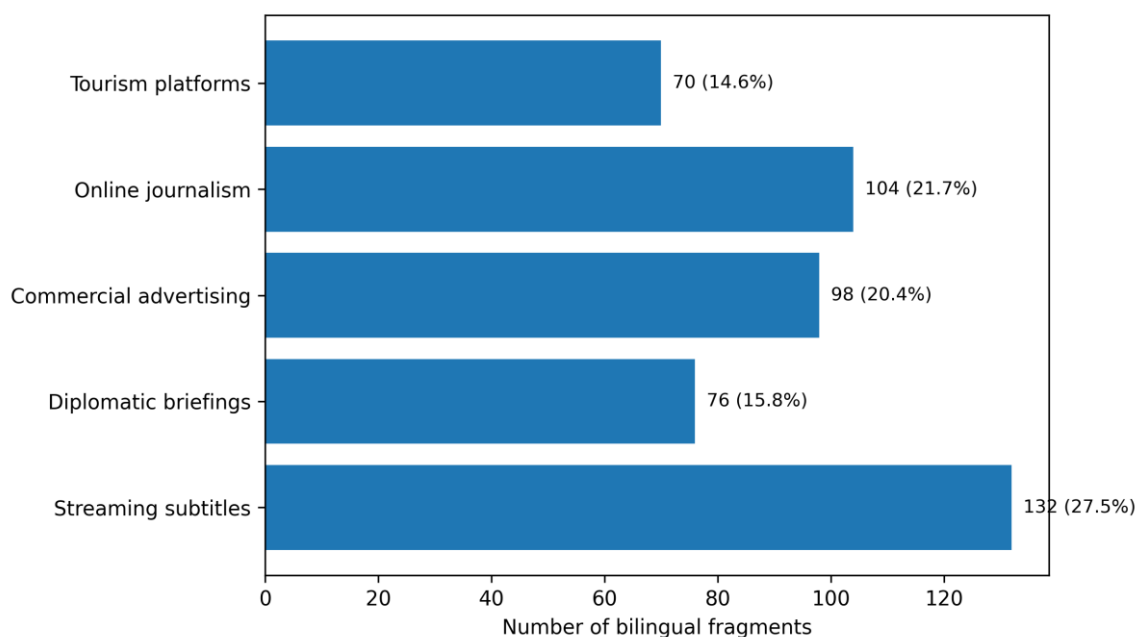


Figure 2. Corpus composition by discourse domain.

RESULTS

The quantitative mapping revealed that explanatory expansion was the most frequently employed procedure, accounting for 197 cases, or 41% of the corpus. Cultural substitution was identified in 115 cases, lexical retention in 86 cases, idiomatic recasting in 53 cases, and contextual reduction in 29 cases. This distribution indicates that translators usually resorted to contextual reconstruction when direct cultural correspondence was absent, whereas literal retention was used mainly for institutional names, globally recognized concepts, or expressions already familiar to digitally literate audiences.

Table 4. Statistical distribution of translation procedures

Translation procedure	Occurrences	Share (%)	Average reader accuracy (%)
Explanatory expansion	197	41	81
Cultural substitution	115	24	72
Lexical retention	86	18	56
Idiomatic recasting	53	11	76
Contextual reduction	29	6	49
Total	480	100	-

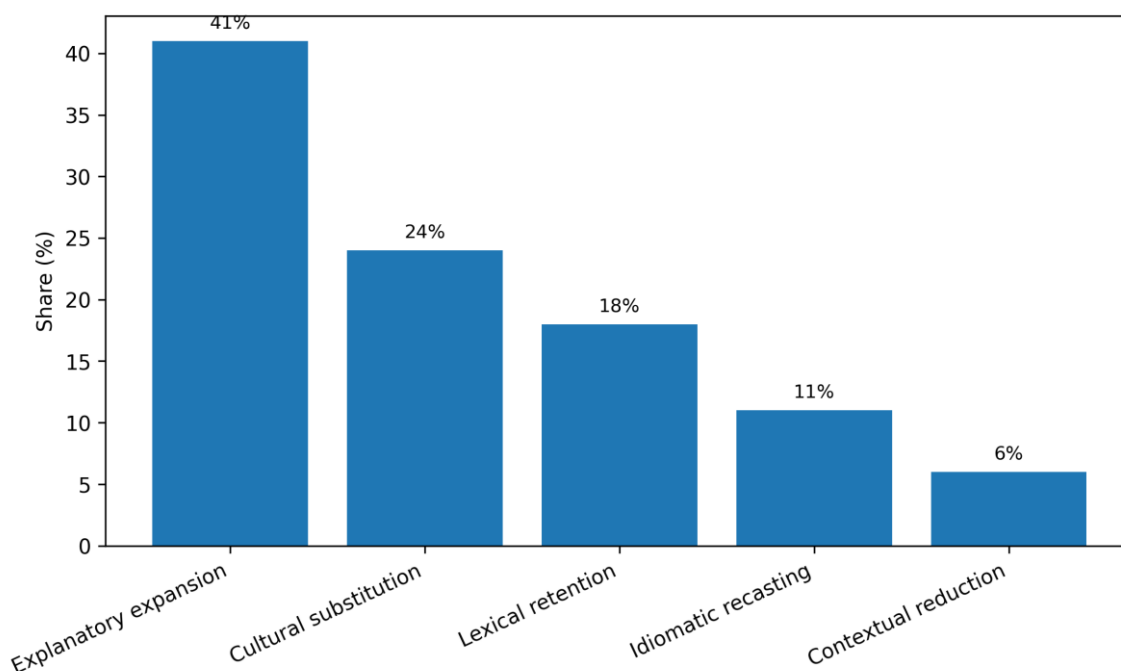


Figure 3. Statistical distribution of translation procedures.

Literal transfer generated the lowest audience comprehension rate across the corpus. In the reader response sessions, fragments rendered through literal transfer achieved an average interpretation accuracy of 43%, whereas explanatory expansion reached 81% and idiomatic recasting reached 76%. This difference is not merely numerical; it shows that cultural meaning in digital discourse is often carried by implication, social evaluation, and background knowledge, all of which require careful reconstruction in the target language.

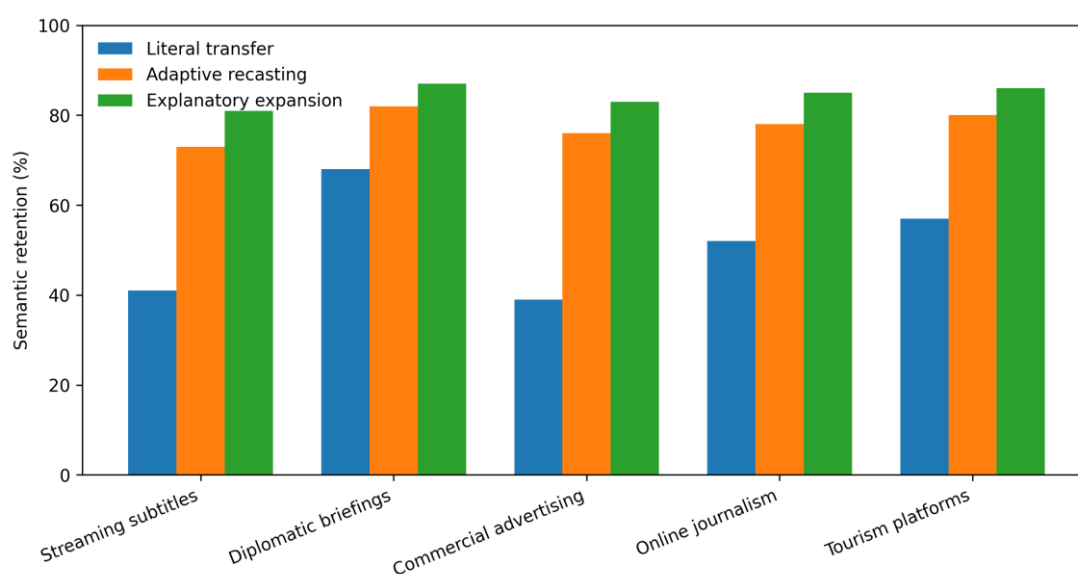


Figure 4. Semantic retention across discourse domains.

Streaming subtitles and commercial advertising produced the highest rate of semantic compression. In subtitles, the restriction was primarily temporal, since translators had to compress culturally dense expressions into short lines that could be read within a limited viewing interval. In advertising, compression resulted from slogan structure, persuasive brevity, and the tendency to prioritize memorability over interpretive completeness. Diplomatic discourse, by contrast, showed the highest retention scores because it generally relies on stabilized institutional vocabulary and comparatively restrained figurative language.

The contextual analysis identified five major forms of cultural residue. Institutional metonymy was the most problematic category: in 63% of literal renderings, expressions referring to political institutions, governmental bodies, or symbolic locations lost their metonymic breadth. Ritual expressions, including holiday-related formulas and consumer-event vocabulary, produced affective weakening in 48% of cases. Political irony and internet-born idioms also created divergence because respondents interpreted them according to age, media exposure, and familiarity with Anglophone digital culture.

Table 5. Microanalysis of selected culture-embedded units

English unit	Proposed Uzbek rendering	Dominant risk	Recommended procedure	SRI
Echo chamber	yopiq axborot doirasi	loss of media-critical meaning	explanatory expansion	84
Glass ceiling	ko'rinmas kasbiy to'siq	weakening of social critique	idiomatic recasting	82
Red tape	ortiqcha rasmiyatchilik	bureaucratic metaphor loss	cultural substitution	79
Cancel culture	ijtimoiy qoralash amaliyoti	ideological overstatement	contextual calibration	77
Deep state	yashirin siyosiy qatlam	institutional ambiguity	explanatory expansion	74
Black Friday	katta chegirmalar mavsumi	ritual-consumer background loss	cultural substitution	80

Microanalysis further demonstrated that the same English unit may require different Uzbek renderings depending on domain. The expression glass ceiling was best rendered as ko'rinmas kasbiy to'siq in professional discourse, whereas a more explanatory version, ayollar va ozchilik guruhlarining yuqori lavozimlarga chiqishiga to'sqinlik qiluvchi yashirin ijtimoiy cheklov, produced stronger comprehension in educational material. This contrast confirms that translation adequacy is not a fixed lexical relation but a context-bound interpretive decision [8, p. 204].

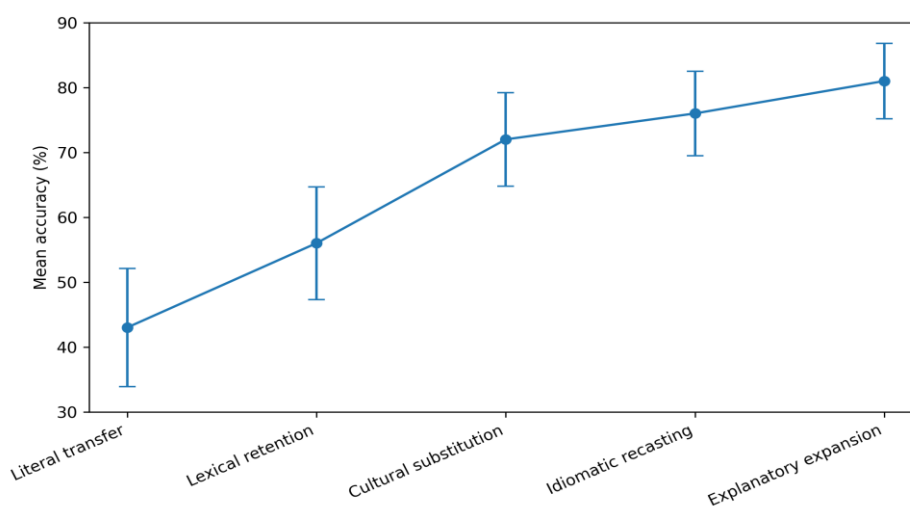


Figure 5. Reader interpretation accuracy by translational configuration.

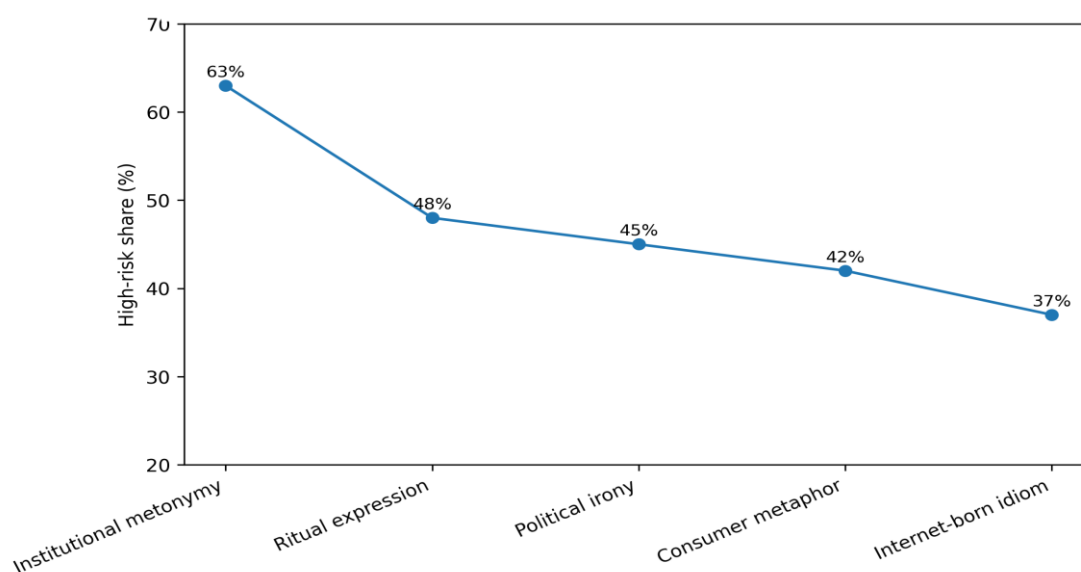


Figure 6. Cultural residue by semiotic category.

DISCUSSION

The findings indicate that semantic compression is one of the most consequential obstacles in English-Uzbek digital translation. Many English expressions condense institutional history, social criticism, collective ritual, and ideological implication into compact lexical forms. When such formations are transferred without explanatory support, the Uzbek text may remain grammatically acceptable while becoming culturally underdeveloped. This discrepancy explains why literal correspondence can produce visible fluency and hidden interpretive failure.

The results also show that translation procedures should not be ranked abstractly; their effectiveness depends on discourse purpose, audience expectation, and medium-specific restrictions. Explanatory expansion is highly effective in journalism, tourism discourse, and educational contexts because it restores cultural background; however, it may overload subtitles or weaken advertising rhythm. Cultural substitution may strengthen readability, yet it can erase the foreign cultural index if used without caution. Lexical retention protects the source-culture marker, but it frequently transfers interpretive labor to the reader. Therefore, the translator's task is not to choose the most prestigious procedure but to select the procedure that preserves communicative force under the given textual conditions [6, p. 50].

Generational difference emerged as an important variable. Respondents with high exposure to English-language digital platforms understood internet-born expressions more accurately than respondents whose English experience was primarily academic. At the same time, the latter group often interpreted institutional and historical references more carefully, particularly in diplomatic and journalistic discourse. This pattern suggests that translation reception is increasingly shaped by uneven forms of digital literacy, not simply by formal bilingual competence.

The category of cultural residue is especially useful for explaining why some translated expressions remain partially opaque even after careful rendering. Residue appears when a target-language expression preserves the propositional message but fails to reproduce the cultural associations attached to the source form. Political sarcasm, ritual greetings, consumer-event vocabulary, and historically loaded metaphors all produced such residue in the corpus. The existence of residue does not mean that translation has failed; rather, it indicates that certain layers of cultural memory require supplementary framing, genre-sensitive adaptation, or strategic retention [5, p. 93].

From a practical standpoint, the study implies that English-Uzbek translators working in digital media need a layered decision model. The first layer concerns denotative content, the second concerns pragmatic force, the third concerns cultural recoverability, and the fourth concerns audience accessibility. If one of these layers is ignored, the translation may become either excessively literal, stylistically flat, culturally obscure, or interpretively overloaded. A balanced translation should therefore operate as an organized negotiation between compression and clarification.

Table 6. Taxonomy of semantic loss in English-Uzbek digital translation

Type of semantic loss	Share of high-risk cases (%)	Typical source	Translational consequence
Pragmatic weakening	28	irony, evaluation, indirect criticism	loss of authorial stance
Cultural opacity	22	ritual, institution, collective memory	reader hesitation or misreading
Metaphoric flattening	19	compressed figurative	plain but reduced

		expression	meaning
Register distortion	17	subtitle and advertising limits	mismatch between genre and tone
Historical reference loss	14	metonymy and political symbolism	reduced sociocultural depth

The study has certain limitations. The corpus, although diverse, is restricted to five discourse domains and does not include private messaging, legal translation, or literary digital platforms. The respondent group is also limited to young adult bilingual readers, which means that wider age-based and region-based variation remains to be examined. Future research may expand the corpus to include machine-assisted translation outputs, audiovisual dubbing, social media commentaries, and comparative material from other Turkic languages.

CONCLUSION This study demonstrates that English-Uzbek translation within digital intercultural communication is not reducible to lexical replacement, formal equivalence, or surface-level fluency. The corpus evidence shows that culture-embedded English formations frequently carry condensed social memory, institutional symbolism, political evaluation, and digital subcultural inference; once these formations enter Uzbek discourse without adequate reconstruction, they undergo semantic compression and leave varying degrees of cultural residue. Consequently, the most reliable translation is not the shortest or the most literal version, but the version that enables the target reader to recover the communicative intention, cultural reference, and rhetorical force of the original expression.

The statistical results confirm that explanatory expansion and idiomatic recasting provide the strongest interpretive outcomes, especially when the source unit contains implicit cultural knowledge. Literal transfer, although sometimes necessary for globally recognizable names and institutional terms, proved insufficient in contexts involving political irony, consumer ritual, and internet-born idiom. The difference between 43% interpretation accuracy for literal transfer and 81% for explanatory expansion is a decisive indication that cultural meaning must be actively reconstructed rather than passively reproduced.

The theoretical contribution of the article lies in the introduction of semantic compression and cultural residue as evaluative categories for English-Uzbek digital translation. These categories make it possible to identify not only whether a translation is correct, but also what kind of meaning has been reduced, which audience is likely to miss it, and how the loss may be compensated. The practical contribution consists in a corpus-based decision model that can assist translators, editors, subtitlers, media specialists, and educators in selecting context-sensitive translation procedures.

Overall, the findings establish that contemporary English-Uzbek translation must be understood as an interpretive practice situated between language, media, culture, and audience reception. In a digital environment where expressions circulate rapidly, acquire new associations, and reach heterogeneous readers, the translator's responsibility is not simply to move words across languages, but to preserve the cultural intelligence of the text. This responsibility demands rigorous contextual analysis, precise stylistic control, and ethically grounded sensitivity to both source-culture specificity and target-reader accessibility.

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