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D.S. Saidkodirova, Doctor of Philological Sciences (DSc) Uzbek State World Languages University ORCID: 0009-0004-8612-8634 E-mail: disuper@mail.ru

STRUCTURAL AND FUNCTIONAL TYPOLOGY OF ABBREVIATIONS IN ENGLISH AND UZBEK INTERNET TERMINOLOGY

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Abstract: The rapid development of Internet technologies has profoundly transformed the mechanisms of terminological formation in global linguistic systems. Within this dynamic digital environment, abbreviation has evolved from a peripheral stylistic device into a structurally dominant and functionally indispensable mechanism of lexical compression. The present study investigates the structural typology, functional motivation, and cross-linguistic adaptation of abbreviations in English and Uzbek Internet terminology. The research is based on a corpus of 412 terminological units collected from technical documentation, academic publications, digital glossaries, and official Internet standards between 2010 and 2024. Through a multi-layer coding model, abbreviations were classified according to structural type, etymological origin, and functional role. Quantitative analysis demonstrates that initialisms and alphanumeric constructions dominate in English, whereas Uzbek terminology exhibits a strong tendency toward assimilated borrowing and phonetic adaptation. The findings confirm that abbreviation functions not only as a means of linguistic economy but also as a cognitive-nominative instrument ensuring conceptual stability and global interoperability. The study contributes to comparative terminology research and proposes recommendations for standardization in Uzbek academic discourse.

Keywords: abbreviation, acronym, initialism, alphanumeric formation, Internet terminology, borrowing, lexicalization, nominative function, terminological standardization, morphological productivity, domain system, protocol terminology, linguistic economy, digital discourse, cross-linguistic adaptation

Annotatsiya: Internet texnologiyalarining jadal rivojlanishi global til tizimlarida terminologik shakllanish mexanizmlarini chuqur o'zgartirdi. Ushbu dinamik raqamli muhitda abbreviatura periferik stilistik qurilmadan leksik siqishning tarkibiy jihatdan ustun va funktsional ajralmas mexanizmiga aylandi. Ushbu tadqiqot ingliz va o‘zbek internet terminologiyasidagi qisqartmalarning struktur tipologiyasi, funksional motivatsiyasi va tillararo moslashuvini o‘rganadi. Tadqiqot 2010 va 2024 yillar oralig'ida texnik hujjatlar, akademik nashrlar, raqamli lug'atlar va rasmiy Internet standartlaridan to'plangan 412 atama birliklari korpusiga asoslanadi. Ko'p qatlamli kodlash modeli orqali qisqartmalar strukturaviy turga, etimologik kelib chiqishiga va funktsional roliga ko'ra tasniflandi. Miqdoriy tahlil shuni ko'rsatadiki, ingliz tilida boshlang'ich va harf-raqamli konstruktsiyalar ustunlik qiladi, o'zbek terminologiyasi esa assimilyatsiya qilingan qarz olish va fonetik moslashuvga kuchli moyillikni namoyon etadi. Topilmalar qisqartmalarning nafaqat lingvistik iqtisod vositasi, balki kontseptual barqarorlik va global hamkorlikni ta'minlovchi kognitiv-nominativ vosita sifatida ham ishlashini tasdiqlaydi. Tadqiqot qiyosiy terminologiya tadqiqotiga hissa qo‘shadi va o‘zbek akademik nutqida standartlashtirish bo‘yicha tavsiyalar beradi.

Kalit so‘zlar: abbreviatura, qisqartma, initsializm, alfanumerik shakllanish, Internet terminologiyasi, qarz olish, leksiklashtirish, nominativ funktsiya, terminologik standartlashtirish, morfologik mahsuldorlik, domen tizimi, protokol terminologiyasi, lingvistik iqtisod, raqamli nutq, tillararo moslashuv

Аннотация: Быстрое развитие интернет-технологий коренным образом изменило механизмы терминологического формирования в глобальных языковых системах. В этой динамичной цифровой среде аббревиатура эволюционировала из периферийного стилистического средства в структурно доминирующий и функционально незаменимый механизм лексического сжатия. В данном исследовании изучается структурная типология, функциональная мотивация и межъязыковая адаптация аббревиатур в английской и узбекской интернет-терминологии. Исследование основано на корпусе из 412 терминологических единиц, собранных из технической документации, научных публикаций, цифровых глоссариев и официальных интернет-стандартов в период с 2010 по 2024 год. С помощью многоуровневой модели кодирования аббревиатуры были классифицированы по структурному типу, этимологическому происхождению и функциональной роли. Количественный анализ показывает, что в английском языке преобладают инициализмы и буквенно-цифровые конструкции, тогда как узбекская терминология демонстрирует сильную тенденцию к ассимилированному заимствованию и фонетической адаптации. Полученные результаты подтверждают, что аббревиатура функционирует не только как средство языковой экономии, но и как когнитивно-номинативное средство, обеспечивающее концептуальную стабильность и глобальную интероперабельность. Исследование вносит вклад в сравнительное терминологическое исследование и предлагает рекомендации по стандартизации в узбекском академическом дискурсе.

Ключевые слова: аббревиатура, акронимы, инициализмы, буквенно-цифровое образование, интернет-терминология, заимствование, лексикализация, номинативная функция, терминологическая стандартизация, морфологическая продуктивность, доменная система, протокольная терминология, языковая экономия, цифровой дискурс, межъязыковая адаптация

Introduction

The emergence of the Internet as a global technological infrastructure has fundamentally altered the processes of term formation and lexical innovation in contemporary

languages. Unlike traditional scientific domains, where terminological stabilization occurs gradually through institutional codification, Internet terminology develops in synchrony with technological innovation and spreads internationally within extremely short temporal cycles. This accelerated diffusion inevitably generates structural compression, which transforms abbreviation into a central rather than marginal word-formation mechanism. In digital communication environments, linguistic economy is reinforced by technical constraints such as character limits, interface compression, coding protocols, and transmission speed requirements. As a result, multi-component technical expressions are systematically reduced to compact symbolic forms that retain semantic precision while minimizing structural length. Abbreviations therefore perform both pragmatic and systemic functions within Internet discourse.

From a structural perspective, abbreviation in Internet terminology demonstrates remarkable morphological diversity. English exhibits a broad range of abbreviation strategies, including initialisms, acronyms, clippings, blends, alphanumeric combinations, and hybrid constructions. Uzbek Internet terminology, however, reflects a predominantly borrowing-based model shaped by technological globalization and the dominance of English as the primary language of digital innovation. The asymmetry between the two languages reflects broader sociolinguistic patterns in knowledge production and technological authorship. Many abbreviated forms, once introduced into professional discourse, undergo lexicalization and become autonomous units whose expanded forms are no longer cognitively activated by users. This lexicalization process indicates that abbreviation is not merely a transitional reduction but a stable nominative outcome.

The scientific relevance of this research lies in its systematic contrastive examination of structural and functional characteristics of abbreviations in two typologically distinct linguistic systems. Previous studies have analyzed abbreviation either within English technical discourse or within broader theoretical frameworks of terminology, yet comprehensive quantitative comparisons involving Uzbek Internet terminology remain limited. The present study addresses this gap by employing corpus-based structural analysis and frequency distribution modeling. The objective is to identify dominant structural patterns, determine functional motivations, and evaluate cross-linguistic adaptation mechanisms. By doing so, the research contributes to the theoretical understanding of abbreviation as a productive terminological strategy in digital communication systems.

Literature Review

Abbreviation as a linguistic phenomenon has long been associated with principles of economy and communicative efficiency. According to Crystal (2006), digital environments intensify structural compression because speed and brevity become functional priorities. Crystal further argues that Internet discourse encourages innovative abbreviation strategies that later penetrate standard language usage. Cabré (1999) emphasizes that terminological systems favor reduction mechanisms when conceptual precision can be preserved without semantic loss. This observation is particularly relevant to Internet protocol terminology, where structural reduction does not compromise definitional clarity.

Sager (1990) maintains that abbreviation in specialized languages frequently precedes institutional codification and becomes standardized through technical documentation. Leichik (2009) underscores that terms fulfill not only nominative but also definitional and classificatory functions. Halliday (1994) argues that linguistic compression reflects systemic functional adaptation to contextual demands. In digital contexts, such adaptation is amplified by global interoperability requirements.

From a morphological perspective, Haspelmath (2010) identifies abbreviation as a productive derivational outcome in languages with high lexical expansion rates. Bowker (2003) observes that standardized abbreviations facilitate cross-linguistic knowledge transfer in technical fields. Temmerman (2000) argues that modern terminology systems are dynamic rather than static, and abbreviation reflects conceptual reorganization rather than mere reduction.

Within Uzbek linguistics, theoretical debates have addressed whether abbreviation constitutes an independent word-formation mechanism. Hodzhiev (2005) suggests that abbreviations initially function as compressed phrases and acquire lexical status only after semantic stabilization. This position differs from the English morphological tradition, where acronyms and initialisms are recognized as autonomous lexical units. Such theoretical divergence influences translation strategies and terminological codification in Uzbek academic discourse.

The review of existing literature indicates that abbreviation in Internet terminology should be examined not only as structural reduction but also as a mechanism of conceptual standardization, lexicalization, and internationalization. However, a comprehensive quantitative comparison between English and Uzbek Internet abbreviations remains underexplored. The present study seeks to address this gap through empirical corpus analysis and structural classification.

Research methodology

The present research applies a multi-methodological approach combining contrastive linguistics, structural classification, quantitative corpus analysis, and functional interpretation. The empirical corpus consists of 412 Internet-related terminological units collected from academic publications, international technical standards, IT glossaries, Uzbek digital portals, university textbooks, and software documentation published between 2010 and 2024. The corpus includes both English-origin terms and their Uzbek equivalents or adapted forms. Selection criteria were defined as follows: (1) the term must function within Internet infrastructure or digital communication; (2) the term must contain an abbreviated structural form; (3) the unit must be attested in professional or academic discourse; (4) definitional clarity must be available in at least one authoritative source. Units functioning exclusively as colloquial chat slang were excluded to preserve terminological integrity.

The coding model was constructed in three analytical layers. The first layer classified structural types: initialism, acronym, clipping, alphanumeric abbreviation, blend (reverse formation), graphical abbreviation, and mixed form. The second layer determined etymological origin: assimilated borrowing, calque translation, hybrid adaptation, or autochthonous lexicalization. The third layer identified functional motivation: linguistic economy, standardization requirement, technological interface limitation, symbolic coding necessity, or conceptual generalization. Each unit was coded independently twice to ensure internal reliability. Frequency distribution was calculated using proportional analysis to determine dominant structural patterns.

Statistical interpretation demonstrated that initialisms constitute 38.8% of the corpus, alphanumeric forms 19.6%, graphical abbreviations 13.3%, clippings 9.2%, blends 7.5%, and mixed types 11.6%. In Uzbek data, 64% of abbreviations represent direct assimilated borrowings, 21% are accompanied by explanatory translation, and 15% demonstrate partial adaptation. This methodological framework enables a comprehensive comparison of morphological productivity and borrowing intensity. The research design ensures replicability and provides a transparent structural basis for interpretation.

Analysis and results

The structural analysis reveals that abbreviation in Internet terminology operates as a systematic rather than sporadic mechanism. English demonstrates higher morphological innovation capacity, while Uzbek terminology shows strong dependency on internationally standardized forms. Below is a representative analytical table of 12 key abbreviations extracted from the corpus.

Term	Definition	EN Example	UZ Example	Comment
HTTP	HyperText Transfer Protocol	HTTP regulates web data exchange.	HTTP протоколи маълумот алмашинувини таъминлайди.	International initialism; full lexicalization.
URL	Uniform Resource Locator	Enter the URL in the browser.	URL манзилини браузерга киритинг.	Structural stability across languages.
DNS	Domain Name System	DNS translates domain names into IP.	DNS домен номини IP манзилга айлантиради.	High-frequency protocol abbreviation.
CD-ROM	Compact Disc Read-Only Memory	Data stored on CD-ROM.	CD-ROM диск маълумот сақлайди.	Alphanumeric; assimilated borrowing.
PPP	Point-to-Point Protocol	PPP establishes direct connection.	PPP баённомаси тўғридан-тўғри уланишни таъминлайди.	Initialism; technical specialization.
VoIP	Voice over Internet Protocol	VoIP enables online calls.	VoIP орқали овозли қўнғироқ амалга оширилади.	Hybrid semantic transparency.
Wi-Fi	Wireless Fidelity	Wi-Fi network is available.	Wi-Fi тармоғи мавжуд.	Phonetic adaptation in Uzbek.
R&D	Research and Development	R&D department invests in innovation.	R&D бўлими тадқиқот олиб боради.	Graphical abbreviation.
Netizen	Internet + Citizen	Netizens shape online communities.	Нетизенлар онлайн жамоани шакллантиради.	Blend; reverse abbreviation.
B2B	Business-to-Business	B2B platform	B2B платформаси	Alphanumeric economic model.

		supports enterprises.	корхоналарга хизмат қилади.	
G2G	Government-to-Government	G2G ensures state cooperation.	G2G тизими давлатлар ўртасидаги алоқани таъминлайди.	E-government model abbreviation.
SMTP	Simple Mail Transfer Protocol	SMTP sends email messages.	SMTP электрон почтани узатади.	International initialism; standardized.

Table 1. Structural and Functional Analysis of Selected Internet Abbreviations

The analysis indicates that abbreviated forms in English often precede their expanded versions in frequency of use. Many users recognize HTTP, URL, or Wi-Fi without reconstructing their expanded lexical components. Uzbek terminology adopts these forms with minimal structural modification, confirming the dominance of international standardization. Blended forms such as “netizen” demonstrate creative morphological productivity in English, whereas Uzbek tends to retain the original structure. Alphanumeric constructions (B2B, G2G) illustrate symbolic-semantic compression designed for global economic modeling.

Quantitative results confirm that abbreviation fulfills three major functions: compression of multi-component technical expressions, facilitation of cross-linguistic interoperability, and stabilization of protocol identity. At the same time, heavy borrowing creates asymmetrical morphological dependency. Uzbek terminology shows limited internal derivational productivity in creating independent abbreviated structures. The findings support the hypothesis that abbreviation serves as a primary structural engine of Internet terminology formation.

Discussion

The results demonstrate that abbreviation in Internet terminology is not merely a stylistic reduction but a structural necessity determined by technological infrastructure. Digital communication environments require rapid encoding, standardized protocols, and global compatibility. English, as the principal language of technological innovation, produces abbreviated units that immediately enter international circulation. Uzbek terminology integrates these forms primarily through phonetic adaptation rather than morphological reconstruction. This process reflects broader globalization dynamics in scientific communication.

Morphological productivity differs significantly between the two languages. English creates blends, hybrid alphanumeric forms, and innovative symbolic constructions. Uzbek predominantly relies on assimilation and explanatory translation strategies. While this ensures terminological stability, it may reduce internal derivational flexibility. From a terminological policy perspective, maintaining international abbreviations ensures interoperability but necessitates systematic definitional clarification in academic contexts.

The cognitive dimension of abbreviation is equally significant. Users internalize abbreviated units as autonomous lexical signs independent of their expanded origins. This lexicalization indicates conceptual stabilization within professional discourse. Abbreviation thus performs both nominative and classificatory functions, reinforcing systematic coherence

within Internet terminology. The study confirms that abbreviation is a dominant structural and functional mechanism in digital lexicon development.

Conclusion

The research confirms that abbreviation constitutes a central structural mechanism in English and Uzbek Internet terminology. Quantitative analysis demonstrates the predominance of initialisms and alphanumeric constructions in English and the dominance of assimilated borrowings in Uzbek. Abbreviation ensures linguistic economy, conceptual precision, and global interoperability. However, structural opacity requires pedagogical and lexicographic clarification in Uzbek academic discourse.

The findings contribute to comparative terminology theory and provide empirical support for abbreviation as a systematic process of lexical stabilization in digital environments. Future research may explore diachronic evolution and pedagogical implications in greater depth.

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Habibullayeva Sohibjamol Akmaljon qizi, Filologiya fanlari bo‘yicha falsafa doktori (PhD) FarDU, filologiya fakulteti tilshunoslik kafedrasi katta o‘qituvchisi
To‘raqulova Odinaxon Abrorjon qizi filologiya o‘zbek tili yo‘nalishi 2-bosqich talabasi sohibjamolhabibullayeva84@gmail.com ORCID ID 0009-0006-7019-7816

O‘ZBEK XALQ QO‘SHIQLARINING FONOPOETIK TAHLILI

Annotatsiya; Ushbu maqolada o‘zbek xalq qo‘shiqlarining fonopoetik xususiyatlari tahlil qilinib, tovush takrorlari, alliteratsiya va tovush tushishi kabi fonetik hodisalar qo‘shiq matnining ohangdorligi, musiqiyligi hamda badiiy-estetik ta’sirchanligini oshirishdagi o‘rni yoritiladi.

Kalit so‘zlar: O‘zbek xalq qo‘shiqlari, fonopoetika, tovush takrori, alliteratsiya, tovush orttirilishi, ohangdorlik, musiqiylik, badiiy-estetik ta’sir.

PHONOPOETIC ANALYSIS OF UZBEK FOLK SONGS

Abstract: This article analyzes the phonopoetic features of Uzbek folk songs, highlighting the role of phonetic phenomena such as sound repetition, alliteration and sound fall in improving the tonality, musicality and artistic-aesthetic expressiveness of the song’s text.

Keywords: Uzbek folk songs, phonopoetics, sound repetition, alliteration, sound gain, tonality, musicality, artistic-aesthetic influence.

ФОНОПОЭТИЧЕСКИЙ АНАЛИЗ УЗБЕКСКИХ НАРОДНЫХ ПЕСЕН