

Evolution of “ IT ” Terminology in the Uzbek Language

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Abstract. The rapid development of information technology has had a significant impact on linguistic systems worldwide, including the Uzbek language. This study examines the evolution, adaptation and standardisation of IT terminology in Uzbek, with a focus on lexical borrowing, semantic transformation and the impact of language policy. Qualitative and comparative methods are used to analyse sources from different periods of Uzbekistan’s digital development. The findings reveal that Uzbek IT terminology has evolved through several stages, including direct borrowing, hybridisation and localisation. It concludes that systematic standardisation and scientific approaches are essential for the sustainable development of IT terminology in Uzbek.

The research employs qualitative, diachronic and comparative linguistic methods to analyse IT-related lexical units drawn from academic literature, official documents, dictionaries and digital communication platforms. The pivotal role played by the interaction between the Uzbek, English and Russian languages in shaping the Uzbek IT lexicon is given particular focus. The study also examines terminological policies and institutional efforts to regulate and standardise technical vocabulary.

The findings reveal that the evolution of Uzbek IT terminology can be divided into three phases: direct borrowing, linguistic adaptation and hybridisation, and the development of localised equivalents. While the first stage was characterised by the extensive adoption of foreign terms, the latter stages demonstrate a growing effort to align terminology with the phonetic, morphological, and semantic norms of the Uzbek language. However, the research also identifies several ongoing challenges, including inconsistent usage and a lack of unified standards, as well as the prevalence of foreign lexical forms in professional and everyday discourse.

The study emphasises the need for a scientifically grounded and methodologically consistent approach to IT terminology. It highlights the importance of effective collaboration between linguists, IT specialists, and policymakers to ensure clarity, usability, and cultural relevance of terminology. Furthermore, it highlights the importance of education, the media and digital platforms in promoting standardised terminology among users.

In conclusion, the evolution of IT terminology in the Uzbek language reflects the wider processes of globalisation, technological integration, and language modernisation. Strengthening terminological systems through research-based approaches will enhance linguistic development and support the integration of the Uzbek language into the global digital space.

Keywords: IT terminology, Uzbek language, Lexical borrowing, language evolution and digital linguistics.

Introduction

Against the backdrop of rapid globalisation and digital transformation, information technology (IT) has emerged as one of the most influential factors in shaping modern languages. The growth of digital communication, software development and internet technologies has given rise to new concepts that demand precise and consistent linguistic representation. Consequently, the formation and evolution of IT terminology has become a significant area of study in contemporary linguistics.



As a dynamically developing national language, the Uzbek language has undergone significant lexical changes in response to technological progress. Since gaining independence, Uzbekistan has experienced accelerated integration into the global information space, intensifying the influx of foreign terminology, particularly from English and Russian [1]. Consequently, the Uzbek IT lexicon has expanded through borrowing, adaptation, and translation.

However, the rapid adoption of IT-related terms has also created several challenges. These include inconsistent usage of terminology, multiple variants of the same concept coexisting, and a lack of unified standards [2]. Foreign terms are often adopted without sufficient adaptation to Uzbek phonetic and grammatical norms, which can hinder comprehension and limit the development of a coherent national terminology system.

Theoretically, the study of IT terminology in Uzbek is closely related to broader issues such as language contact, lexical borrowing and terminology standardisation. Although several studies have addressed general aspects of lexical development in Uzbek, a comprehensive analysis focusing specifically on the evolution of IT terminology within a structured, diachronic framework is still needed.

The main objective of this study is therefore to examine the evolution of IT terminology in the Uzbek language, identifying its key development stages and analysing the linguistic mechanisms involved in term formation and adaptation[3]. This study aims to evaluate the current challenges and propose improvements to the standardisation and scientific development of IT terminology.

This study is significant because it contributes to theoretical linguistics as well as the practical development of terminology. By providing a systematic analysis of the evolution of IT terminology, the study will support the modernisation of the Uzbek language and help integrate it into the global digital landscape.

Literature Review

The study of terminology development, particularly in the field of information technology, has attracted significant attention within the field of modern linguistics. Scholars have adopted various approaches to this issue, including theoretical, sociolinguistic and applied perspectives. They have emphasised the impact of globalisation, language contact and technological progress on terminological systems[4].

Classical works in terminology theory, such as Cabré's (1999) definition, describe terminology as a structured system of specialised lexical units reflecting conceptual frameworks within a given field. Cabré argues that effective terminology development requires linguistic adaptation, conceptual clarity and standardisation. This theoretical framework is essential for analysing IT terminology in developing languages, such as Uzbek.

Research on the influence of global languages, notably by Crystal (2003), highlights the significant impact of English as a source of modern technological vocabulary [5]. The spread of English-based IT terms into other languages is well documented.

These loanwords are adopted either directly or via phonetic and morphological adaptation. This phenomenon is particularly pertinent to Uzbek, for which English and Russian are key source languages.

Studies on language contact and borrowing, including those by Haugen (1972) and Fishman (1972), provide valuable insights into the integration of foreign elements into languages. Haugen distinguishes between various types of borrowing: loanwords, loan translations, and semantic borrowing. All of these can be observed in the Uzbek IT lexicon. Fishman emphasises the sociolinguistic factors that influence language choice, such as prestige, functionality and institutional support.

Several scholars have examined the impact of Russian and English on terminology development in the context of post-Soviet languages. Vinogradov (1977) and subsequent researchers have noted that Russian has historically played a key role in the development of technical terminology in Central Asia[6]. Even today, many Uzbek IT terms are borrowed directly from Russian or influenced by Russian linguistic patterns.



Studies of the Uzbek language, conducted at a national level by researchers such as Reshetov (1991) and contemporary Uzbek linguists, have examined processes of lexical modernisation and terminology formation. These studies emphasise the importance of creating native equivalents while maintaining international intelligibility. Recent research also suggests that government policies and official terminology commissions are becoming more influential in shaping language usage in specialised fields.

Methodology

This study takes a comprehensive methodological approach to investigating the evolution of IT terminology in Uzbek. The research design incorporates qualitative and quantitative methods to ensure a thorough and systematic analysis.

First, a descriptive method is employed to examine the current state of IT terminology in Uzbek. A wide range of sources, such as academic articles, textbooks, technical documents, media outlets and online resources, are collected and analysed to identify commonly used IT terms and their variations.

Secondly, a comparative analysis is conducted to compare Uzbek IT terms with their English and Russian equivalents. This helps determine the terms' origins, degree of borrowing and semantic accuracy. Particular focus is given to the significant influence of English as the primary source language in the global IT sector, as well as the ongoing impact of Russian due to historical and regional factors.

Thirdly, elements of corpus analysis are incorporated into the study. To examine the frequency with which IT terminology is used and the contexts in which it appears, we compile a corpus of digital texts, including online articles, forum posts, blog entries and official documents. This method enables us to identify patterns of real-life usage and how terms are integrated into everyday communication.

Finally, we employ a sociolinguistic approach to analyse the social factors that influence the adoption and use of IT terminology.

The study considers differences in usage among various groups, such as IT professionals, students and the general public, to highlight how terminology spreads and becomes standardised within society.

In addition, a content analysis method is employed to examine the structural and semantic features of IT terms, including borrowing strategies such as direct loanwords, calques and transliteration.

All collected data are systematically organised and analysed to draw valid conclusions. This integrated methodological framework provides a thorough understanding of the development trends, linguistic features and socio-cultural aspects of IT terminology in Uzbek..

Results

Analysing IT terminology in the Uzbek language reveals it to be a dynamic, complex and multi-layered process, shaped by historical developments, linguistic mechanisms and technological advancements[7]. Based on the collected data and comparative linguistic analysis, several key findings reflecting different stages and patterns of terminology evolution have been identified.

Firstly, the majority of IT terms in Uzbek originate from English, either directly or indirectly via Russian. This phenomenon clearly reflects English's dominance as the global language of information technology and scientific communication. Terms such as kompyuter, server, printer, and internet are widely used in their adapted or semi-adapted phonetic forms. The minimal phonological modification of these terms indicates their rapid integration into the Uzbek lexicon during the initial stages of technological adoption when there was limited time and institutional capacity to develop native equivalents[8]. This stage is characterised by a high level of dependency on international terminology and the pragmatic acceptance of foreign lexical units to facilitate immediate communication.

Secondly, the study identifies a gradual and systematic process of linguistic adaptation. Borrowed terms are increasingly incorporated into the phonological, morphological and semantic structures of the Uzbek language. During this process, some concepts are translated or calqued into native equivalents, resulting in terms such as 'foydalanuvchi' (user), 'tarmoq' (network), and 'dastur' (programme).



These examples demonstrate successful cases of semantic substitution and localisation, where the conceptual meaning is preserved while the lexical form is fully aligned.

With Uzbek linguistic norms. The increasing use of such terms in academic, educational and administrative contexts suggests a continued effort towards terminological independence and the strengthening of the national language in scientific fields[9].

Thirdly, hybrid terminology has emerged as an important transitional phenomenon in the evolution of IT vocabulary. Hybrid forms usually combine Uzbek lexical elements with borrowed components, or partially adapt foreign terms. Such formations are particularly prevalent in professional communication, technical documentation, and informal digital discourse [10]. While they can enhance communication efficiency among specialists familiar with both linguistic systems, hybrid terms also introduce variability and inconsistency into the terminological system. The coexistence of multiple variants for a single concept can lead to ambiguity, particularly in contexts where standardisation is required.

Fourthly, the research highlights the growing influence of institutional mechanisms in regulating and standardising IT terminology. Government agencies, academic institutions and specialised committees have developed official terminology lists, dictionaries and guidelines to promote the consistent use of Uzbek equivalents. These initiatives play a crucial role in shaping language policy and modernising the national vocabulary. However, despite these efforts, the practical implementation of standardised terminology remains inconsistent. In particular, discrepancies can be observed between official terminology and how it is actually used in the media, in education and in professional contexts.

Furthermore, the findings suggest that digital platforms, such as social networks and online forums, play a significant role in disseminating and evolving IT terminology. These platforms are dynamic spaces where new terms emerge, spread and evolve rapidly. While they facilitate accessibility and communication, they also contribute to the uncontrolled proliferation of non-standard or inconsistent terminology[11]. The absence of strict linguistic regulation in digital environments often results in the parallel use of standardised, borrowed and hybrid terms, which makes it difficult to establish a unified terminological system.

Additionally, the data suggest that the evolution of IT terminology in Uzbek is not linear, but rather involves an ongoing interplay between globalisation and localisation. Global technological developments necessitate the adoption of internationally recognised terms, while linguistic and cultural considerations prompt the creation of native equivalents. This results in a dynamic equilibrium in which multiple forms coexist and compete within the language system.

Overall, the results demonstrate that Uzbek IT terminology is still in a developmental phase characterised by ongoing adaptation, partial standardisation and active external influence[12]. The findings emphasise the need for a more systematic and coordinated approach to terminology development, integrating linguistic research, institutional policy and practical usage across different domains.

Discussion

The results of this study demonstrate that the evolution of IT terminology in Uzbek is closely linked to broader sociocultural and technological processes, such as globalisation, rapid advances in information and communication technologies, and changing language policies. The dominance of English as the primary source language for IT terminology reflects its global status as the lingua franca of science and technology[13]. At the same time, the continued presence of Russian terminology emphasises the historical legacy of the Soviet era, during which Russian was the main language used for scientific and technical communication in the region. These dual influences have jointly shaped the structure and composition of the Uzbek IT lexicon.

The prevalence of borrowed terminology suggests that linguistic economy, communicative efficiency and international compatibility are prioritised over the immediate creation of native equivalents. Borrowing enables new concepts to be swiftly integrated without the need for extensive lexical



innovation. However, excessive reliance on foreign terms could hinder the long-term development of the Uzbek language, particularly in academic, technical, and educational contexts. This could limit accessibility for non-specialist users and hinder the dissemination of knowledge in the native language. Therefore, it is crucial to strike a balance between maintaining international intelligibility and preserving the linguistic identity of the Uzbek language in the development of terminology [14].

The findings also reveal that the Uzbek language has a significant internal capacity for creating and adapting terminology. The successful localisation of terms such as *foydalanuvchi* ('user') and *tarmoq* ('network') demonstrates the effectiveness of semantic translation and native word formation strategies. These examples demonstrate that Uzbek can produce terms that are functionally equivalent, culturally appropriate and widely accepted in formal discourse. However, the existence of multiple lexical variants for the same concept indicates a lack of unified standards and coordinated implementation [15]. This variability can result in ambiguity and inconsistency, particularly in academic writing, technical documentation and educational materials.

Hybrid terminology is an important transitional phase in the evolution of IT vocabulary. Such terms often emerge in environments where speakers combine elements of Uzbek and other languages to facilitate communication. While hybrid terms can increase flexibility and ease of expression, their widespread and unregulated use can hinder the development of standardised terminology. In some cases, hybrid forms become so entrenched in everyday usage that replacing them with standardised equivalents becomes difficult.

Institutional efforts play a decisive role in addressing these challenges. Developing official terminology standards, specialised dictionaries and regulatory guidelines is essential for ensuring consistency and clarity across different domains. However, the effectiveness of these measures depends not only on their creation, but also on their implementation and acceptance by end users. This requires coordinated efforts from linguists, IT subject-matter experts, educators and policymakers [16]. Additionally, raising public awareness and incorporating standardised terminology into educational curricula are crucial steps towards promoting consistent usage.

The growing influence of digital communication platforms adds another layer of complexity to the evolution of IT terminology. Social media, online forums, blogs, and digital publications are dynamic spaces where terminology is constantly created, modified, and shared. While these platforms accelerate the spread of information and facilitate real-time communication, they also contribute to the proliferation of non-standard, informal, or inconsistent terminology. The lack of regulatory oversight in these environments often results in standardised, borrowed, and hybrid forms being used in parallel, complicating efforts towards terminological harmonisation.

Furthermore, the interaction between formal and informal language use suggests that terminology development is not confined to academic or institutional settings alone, but is also influenced by everyday communication practices [17]. This highlights the importance of considering real-world language usage patterns when developing and implementing terminology standards. Corpus-based studies and empirical analyses of digital communication can provide valuable insights into the practical use of IT terminology, helping to align standardisation efforts more closely with real-world usage.

Overall, the evolution of IT terminology in the Uzbek language is best understood as a continuous, non-linear process influenced by various internal and external factors. This evolution reflects the tension between globalisation and localisation, standardisation and variability, and tradition and innovation [18]. Addressing the challenges identified in this study requires a comprehensive, interdisciplinary approach combining linguistic research, policy development and practical implementation. Strengthening the scientific and methodological basis of terminology work will enhance consistency and clarity in IT communication, and contribute to the broader goal of integrating the Uzbek language into the global digital and scientific ecosystem.



Conclusion

This study examines the evolution of IT terminology in Uzbek, focusing on its historical development, linguistic adaptation and current standardisation trends. The findings reveal that Uzbek IT terminology has evolved through a gradual, multi-stage process, influenced by globalisation, technological progress and language contact.

The research confirms that the initial stage of terminology formation was characterised by extensive borrowing from English and Russian due to the rapid introduction of new technologies and the absence of established local equivalents. This was subsequently followed by processes of adaptation and hybridisation, during which borrowed terms were partially integrated into the phonetic and grammatical systems of Uzbek. More recently, efforts towards localisation and the creation of native equivalents have gained momentum, reflecting a growing emphasis on linguistic independence and national identity.

However, despite these positive developments, several challenges remain. These issues include inconsistent usage of terminology, multiple variants of the same concept coexisting alongside one another, and the limited implementation of standardised forms across different domains. The widespread use of foreign and hybrid terms, particularly in digital communication, continues to hinder the development of a coherent, unified system of terminology.

This study emphasises the necessity of a systematic, scientifically grounded approach to terminology development. Key steps to improving the quality and consistency of IT terminology include establishing clear standards, improving institutional coordination and fostering collaboration between linguists and IT specialists. Furthermore, education, the media, and digital platforms must play a stronger role in ensuring the effective dissemination and adoption of standardised terms.

In conclusion, the evolution of IT terminology in the Uzbek language reflects broader socio-cultural and technological transformations, and is an ongoing, dynamic process. Strengthening the theoretical and methodological foundations of terminology work will support the development of the Uzbek language and facilitate its integration into the global scientific and digital communities. Future research should focus on corpus-based analysis, empirical studies of language use and developing comprehensive terminological resources.

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