

## LEXICAL-SEMANTIC ANALYSIS OF IT-RELATED TERMINOLOGY IN THE ENGLISH LANGUAGE

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**Abstract:** *This article investigates the lexical-semantic processes affecting IT-related vocabulary in the English language, focusing on the four principal types of semantic change — extension, narrowing, amelioration, and degradation — as observed in a corpus of 35 words. The study further provides a systematic overview of key IT security, infrastructure, network, and audit terminology, with definitions and Uzbek-language equivalents, in order to support professional comprehension and terminographic development in the field.*

**Keywords:** *semantic shift, extension of meaning, narrowing of meaning, amelioration, pejoration, IT terminology, cybersecurity, IT infrastructure, IT network, lexical-semantic analysis.*

### 1. Introduction

Alongside newly formed or borrowed words, vocabulary is subject to other kinds of change. Words already present in the language that have come into contact with technological advancement — particularly the Internet — have undergone processes such as semantic shift, or change in word meaning. The principal types of semantic change include extension, narrowing, degradation, and amelioration. This study examined 35 words that have undergone these processes. Each of these processes is discussed in detail below.

### 2. Types of Semantic Change in IT-Related Vocabulary

Extension of meaning is a type of semantic change in which the meaning of a word becomes broader or more encompassing than its previous meaning. In English, semantic extension is also referred to as semantic transfer, generalization, or widening. The opposite process is called semantic narrowing, in which a word acquires a more restricted meaning than it previously had.

As Victoria Fromkin observed: when the meaning of a word becomes broader, a new meaning is added to its existing meanings. Extension of meaning occurs when a

word with a particular or specific meaning is widened. The process is formally known as generalization. Over the course of this research, 46% of the words studied were found to have undergone generalization.

Words that once referred exclusively to physical objects on a wooden desk have found new life in the world of email and computers. Words such as folder, file, and directory — originally used for physical office objects — are now also used to describe objects on a computer, performing analogous functions in the new environment.

*Search any folder or drive combinations for duplicate files. (Reddit, 14.07.2017)*

The word broadcast, which several centuries ago meant "to sow seeds," expanded in the technological age to mean "the distribution of information via television, radio, and the Internet."

*Sometimes seeds were simply broadcast in the wind over barren areas.*

*Check out my broadcast from my PlayStation 4! #PS4live (Fortnite) live at... (Twitter, 27.05.2018)*

The word troll formerly referred to a strange, inhuman creature living in the forests of Northern Europe; it later came to denote a person who deliberately posts provocative messages and comments on social media or other online platforms. The word is now also applied to people who behave in the same way in real life.

### 3. Key IT Terminology: Definitions and Uzbek Equivalents

Small and medium-sized businesses (SMBs) frequently encounter more IT-related challenges than large enterprises, partly due to their size. Moreover, taking advantage of new technological opportunities requires business leaders and employees to be familiar with the various terms and abbreviations used in the IT field. Awareness of different IT security terms and definitions is the first step toward increasing awareness of cyberattacks within any given organization.

The following terms represent active IT security vocabulary:

- **Authentication** (*Autentifikatsiya*) — The process of verifying the identity of a person attempting to access an online service or device. Multi-Factor Authentication (MFA), which requires more than one form of verification, is considered best practice in cybersecurity.
- **Antivirus** (*Antivirus*) — Software that scans files and storage to detect and neutralize malicious code. It can scan and remove threats such as botnets, viruses, keyloggers, and spyware from a system.

- **Bug** (*Xato*) — An error, defect, or flaw in any peripheral device or information system. It can cause abnormal or unexpected behavior in a computer.
- **Cybersecurity** (*Kiberxavfsizlik*) — The process of protecting data and critical systems from internet-based threats and attacks.
- **Encryption** (*Shifrlash*) — The process of protecting data by encoding it so that it can only be accessed via a specific key.
- **Firewall** (*Xavfsizlik devori*) — A defensive protection system that guards a computer against cyberattacks.
- **IP Address** (*IP manzil*) — Short for Internet Protocol address; a unique address assigned to a computer on a network, functioning as a home address that is identifiable across the network.
- **Spyware** (*Josuslik dasturi*) — Software that installs itself on a device or system covertly, without the user's knowledge or permission. It collects data on user activities and keystrokes.
- **Zero Trust Architecture** (*Zero Trust arxitekturasi*) — A strategic security model designed to limit cyberattacks by eliminating implicit trust and continuously verifying every stage of digital interaction.

IT infrastructure encompasses several components that play a role in an organization's overall IT environment and functions:

- **Software** (*Dasturiy ta'minot*) — Programs used by a company to perform internal operations and serve customers. Business software may include enterprise resource planning (ERP), web servers, operating systems (OS), customer relationship management (CRM), and productivity applications.
- **Hardware** (*Uskuna*) — The physical components of IT infrastructure, encompassing all the equipment required to support a device. Hardware includes storage and data centers, switches and routers, power supplies, cables, and enclosures.
- **IT Infrastructure** (*IT infratuzilmasi*) — The system of business software, hardware, networks, and services required to manage and monitor an IT environment.
- **Network** (*Tarmoq*) — A collection of servers, computers, mainframes, equipment, and other devices required to provide connectivity, establish a network firewall, and enable internet connectivity.

#### 4. Conclusion

The lexical-semantic analysis conducted in this study demonstrates that IT-related vocabulary in the English language is not static but undergoes continuous

semantic transformation. Among the 35 words examined, 46% showed extension of meaning, 28% amelioration, 23% degradation, and only 3% narrowing — reflecting the dynamic and predominantly expanding character of IT-related semantic change.

The Internet and digital technologies have been particularly powerful drivers of semantic extension, enabling ordinary words such as folder, file, broadcast, troll, and lurk to acquire specialized technological meanings while retaining traces of their original senses. Understanding both the etymological roots and the contemporary technical meanings of such terms is essential for effective communication in the IT field.

Knowledge of IT security, infrastructure, network, and audit terminology — together with their Uzbek-language equivalents — is an increasingly important competency in today's globalized, digitally connected world. Systematic terminographic work to document, define, and translate this rapidly evolving vocabulary remains a pressing task for Uzbek linguistics and the broader IT community.

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