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INFORMATION WARFARE AND PSYCHOLOGICAL THREATS IN OPEN INFORMATION ENVIRONMENTS

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ABSTRACT

In the context of rapid digital transformation and the formation of a global information society, information systems have become a decisive factor in social development, governance, and human interaction. At the same time, the growing volume, speed, and openness of information flows have generated new risks related to information and psychological security. This article examines the conceptual foundations of information processes, information systems, and information technologies, emphasizing their role in decision-making and state governance. Special attention is paid to automated information systems as human–machine complexes that support managerial activity and influence social stability. The study also analyzes the challenges of information security in highly informatized environments, highlighting the need for a modernized state information policy capable of countering information and psychological threats. The article argues that ensuring information and psychological security requires not only technical solutions but also socio-psychological, ethical, and ideological mechanisms aimed at protecting national interests, strengthening public trust, and fostering sustainable development in open information systems.

KEYWORDS

Information systems; information technologies; information security; psychological security; automated information systems; state information policy; information society.

Introduction

Today, information is extremely widespread and interpreted in a multifaceted manner. It is difficult to find a field of knowledge in which information does not play a role. The vast volume of data encompassed by the concept of "information" truly surrounds and permeates human life.

So, what is information in essence? Information refers to data about individuals, facts, objects, events, phenomena, and processes.

It is well known that information can take various forms, including transmitted messages, data stored on computers, copies, letters or notes, archives, formulas, schemes, diagrams, product models, original samples, dissertations, court cases, and many others.

Like other products, information has its users and consumers; therefore, it has specific clients. Information must possess characteristics that meet the needs of recipients and production requirements. From the users' perspective, the quality of information should provide additional material and moral

benefits. From the distributors' point of view, information should ensure the protection of important commercial secrets and enable successful competition in the sale of goods and services. Naturally, this necessitates protecting information that must remain confidential.

World experience shows that the development of a state's information infrastructure transforms all spheres of society and the state, including people's worldview and the conditions of their participation in labor, social, and political life, thereby accelerating social development. Various information technologies, automated systems, and databases have become an integral part of governing state structures, the economy, and national defense.

Information must not only be received by a subject or technical device but must also be separated from its original source. As a result, operations are performed on information, and the totality of these operations constitutes the information process.

Information processes include the reception, collection, processing, and transmission of information. Information always manifests in a material-energy form, particularly as signals. Signals may have different physical natures. In the information process, a signal carries information from the source to the receiver and then to the destination. Information transmission is a multistage process in which the physical properties of the signal may change at each stage. This raises issues related to signal equivalence, objectivity and completeness of transmission, and the receiving subject's capacity to perceive information.

Information transmission is only one component of the overall information process, which actually begins with the reception and recording of information from a source. Information is separated from noise, a signal is formed, and information is transmitted through it. Signals may be discrete and have a specific structure. Computer operation is based on the principle of transmitting discretized signals and performing formal-logical operations. Unlike humans, who subjectively perceive object images, computers process encoded characteristics of objects.

Despite fundamental differences between humans and computers in information perception, in both cases the information process begins with receiving and distinguishing data. Information itself is the content of signals suitable for transmission through physical channels such as electrical, acoustic, and optical means.

Information reception refers to its secondary acceptance by another subject or device. Information processing is carried out by humans or technical devices, including computers. In computers, information processing means transforming incoming data into digital or analog form according to strict programs or algorithms. Unlike computers, humans possess the ability to process information mentally and logically.

The information process ends with presenting information to the user, displaying images in various forms, and supporting decision-making. Data storage is a crucial stage that may occur at any point in the information process.

Thus, computers may be applied at any stage of the information process—from data acquisition to final processing. The content of each information process is determined by the specific field in which the information is processed. Information processes differ in complexity; copying data is one of the simplest forms, while management processes are among the most complex.

Information systems are systems designed to store, search, and provide data in response to user queries. Modern interpretations view the personal computer as the primary technical tool for information

processing. Without considering the human role, technical implementation of information systems alone has no real value.

Automated information systems are human–machine systems that collect, process, and transmit data automatically to support managerial decision-making. In such systems, operations are performed automatically without direct human intervention, although human oversight remains essential. Their core component is information technology, whose development is closely linked to the evolution of information systems.

The primary goal of automated information technologies is to transform initial data into higher-quality information to support optimal management decisions. This is achieved through information integration, relevance, consistency, and the use of modern technical tools.

Despite the growing volume of processed data, information technologies significantly reduce processing time and represent a key component of information resource management.

Designing information systems and technologies is a complex process that involves restructuring management activities and creating a new information-technological environment. The goal is to implement a human–machine management system that provides managers with timely, analytical, and multivariate data to support real-time decision-making.

Analysis of contemporary development indicates that humanity is on the threshold of a global information society. Rapid societal changes intensify the need for a clearly defined state information policy, especially in conditions of intensified information confrontation.

In Uzbekistan, state information policy must consider information warfare concepts developed by foreign states as external threats. The development of a state program for implementing information policy serves as a key component of ensuring information security. However, analyses show that reliance on general principles alone is insufficient.

Firstly, Uzbekistan requires an effective system capable of resisting information attacks. Secondly, information policy must be modernized to address the realities of a highly informatized society. Thirdly, information security must ensure the constructive use of modern information technologies for peace and stability without politicizing socio-economic interests.

In our view, information security policy should primarily prevent political conflicts, promote self-awareness, strengthen civic relations based on moral and educational values, and foster humanistic thinking, creativity, and constructive potential.

Finally, information and psychological security requires the development of moral and spiritual norms that limit the dissemination of content promoting violence, hatred, immorality, and social discord, prioritizing national interests over individual gain

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