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DIGITAL HR MANAGEMENT SYSTEM FOR SECURITY STRUCTURES BASED ON THE EMPLOYEE'S E-CABINET

The **subject** is methods and models, operational processes of digitalization of HR management systems in security-oriented systems. The **goal** of the work is to develop methods and models for managing projects of digitalization of operational processes of HR management systems in security structures to increase their efficiency and adaptability. The article addresses the following **tasks**: a conceptual model of digital transformation of HR processes in security-oriented systems has been developed, a model of digitization of personnel processes based on the creation of the Rescuer+ e-cabinet has been developed, and algorithms for the automated generation of electronic contracts and their signing using electronic digital signatures have been developed and described. The following **methods** are used: modeling methods, in particular, graphical and structural-logical modeling, which made it possible to build a comprehensive model of digital transformation and a centralized management model. The following **results** were obtained: a conceptual model of digital transformation of HR processes in security-oriented systems was developed, which formalizes the interaction of personnel, organizational, and information security components. Based on the proposed model, a method for digitizing HR processes was substantiated and developed by creating the Rescuer+ employee e-cabinet, which ensures the centralization and automation of key HR operations. As part of the implementation of the method, an algorithm for the automated generation, storage, and signing of electronic contracts using a qualified electronic signature has been developed and described, which guarantees the legal significance and integrity of electronic document management. The process of managerial decision-making has been improved thanks to consolidated access to real-time data and HR analytics capabilities, the ability to use the developed models and methods as a basis for planning and managing digital transformation projects in other law enforcement agencies in Ukraine, adapting them to the specifics of particular departments. **Conclusions**: The implementation of a coordinated strategic policy for the development and use of information data will contribute to the modernization and acceleration of decision-making processes in various aspects of security-oriented systems. Thus, the above emphasizes the importance of digital technologies in the implementation of public service priorities, in particular their accessibility to personnel, as well as increasing efficiency and implementing innovative solutions.

Keywords: digitalisation, automated communication, government structures, HR management, security-oriented systems.

Introduction

In today's context of societal development and technological progress, the digital transformation of systems responsible for public safety, emergency response, and the preservation of the state's vital resources has become particularly relevant. The effectiveness of security-oriented systems depends to a large extent on the human factor – the preparedness, professionalism, and psychological resilience of personnel. Digital transformation will enable the creation of an integrated human resources management system in which data, technology, and analytics support managerial decision-making, optimize recruitment, training, evaluation, and motivation of personnel, thereby increasing the operational efficiency and reliability of the entire service.

Analysis of the problem and existing methods

Within the scope of this study, security structures (security-oriented systems) are understood to mean government agencies and units whose primary function is to ensure national security, civil protection, and emergency response, in particular law enforcement agencies and other security forces. Given the strategic importance of these units, in the context of the current digital transformation, the need to address the scientific challenge of creating an integrated human resources management system remains relevant within security-oriented systems. The main challenges lie in the absence of unified models for information exchange, effective data processing algorithms, and reliable digital communication channels that would account for the

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specificities of operational and service activities, varying levels of digital proficiency among personnel, and high cybersecurity requirements. To address this challenge, it is necessary to develop scientifically grounded methods and software-technical solutions. These must integrate existing digital platforms, mobile services, and automation tools into a unified communication space tailored to the needs of security agencies. Digitalization is a sustained trend in Ukraine's security-oriented agencies, as evidenced by the implementation of government digital services such as "I Am a Volunteer," EASCO, "Reserve+," and Diya.

Table. 1. *Analysis of government digital services and software applications in the field of human resources and security management*

Application name	Target audience	Software application functionality
I am a volunteer	Volunteers and socially active citizens willing to assist in emergency response, potentially serving as volunteer rescuers. Over 100 downloads on the Play Store as of 2025; the actual number may be higher upon official launch	A platform for organizing and coordinating volunteer activities during emergencies; the platform sends information about incidents and routes to the scene; it includes a participant availability calendar and registration with data verification
EASCO (Unified Automated Personnel Record System)	Covers the total number of personnel. The system operates under restricted access for authorized users, in compliance with information security and personal data protection requirements, which is critically important for a security-oriented structure	Its functional purpose is the centralized management, storage, and updating of personnel information. It supports the implementation of internal HR procedures, the preparation of official reports and analytical materials for management decisions, and ensures the accuracy and integrity of personal data.
Diya	Ukrainian citizens and foreigners with residence permits who use government services in digital format. Over 23 million users as of 2025	State mobile service "State in a Smartphone": legally binding electronic documents, access to government services online; registration of rights, technical passports, and statuses (veterans, families of the deceased)
Reserve+	Ukrainian citizens subject to military service aged 18–60, reservists, conscripts, individuals seeking deferment and wishing to participate in recruitment processes, as well as women with medical or military specialties. Over 5 million users as of 2025	Military Registration Management: electronic military documents, deferrals for specific categories (disabled persons, guardianship), submission of applications for deferral of mobilization, search for vacancies in the Armed Forces of Ukraine, access to digital military identification, and updating of registration data.

An analysis of government digital services and software applications in the fields of security and human resources management indicates active progress in digitalization within Ukraine's security-oriented institutions. Existing solutions are designed to address specific tasks, such as personnel management, volunteer coordination, the provision of public services, or military registration. At the same time, an analysis of the functional capabilities of these applications revealed the absence of a single comprehensive tool designed for the integrated management of HR processes, taking into account the specific nature of security-oriented systems and the need for personnel to have continuous access to HR services and information data.

The research work of S.D. Bushuev, D.A. Bushuev, and R.F. Yaroshenko focuses on improving methodologies for managing projects, programs, and portfolios in complex socio-technical systems. [2, 3] The research by O.I. Kovalchuk and D.S. Kobylkin covers the study of the principles of forming and developing project managers' competencies, the integration of information technologies into personnel management processes, as well as the analysis of the impact of behavioral, emotional, and cognitive factors on the effectiveness of innovative projects. [8, 4] The authors pay particular attention to the development of value-oriented management concepts, the formation of organizational development portfolio lifecycles, and the creation of adaptive management models in conditions of uncertainty and digital transformation. The works of these scholars lay the foundation for a scientific school that integrates systemic, cognitive, and behavioral approaches to project management aimed at strengthening the resilience and innovative potential of organizations. D.V. Bodnary is devoted to how global information flows, digital technologies, and internet communications influence the strategic directions of security structures' development. [5, 6] The authors' materials examine the main trends in the implementation of modern information and communication technologies in the field of HR management for security structures. The study emphasizes that for effective human resources management in the context of the global information space, it is necessary to develop new competencies, strengthen digital culture, and implement

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flexible management models focused on innovation, rapid communication, and knowledge sharing. [1, 7, 11].

At the same time, an analysis of scientific sources shows that the issue of creating integrated digital HR management systems for security-oriented organizations has not been sufficiently studied. Most existing solutions are focused on automating individual HR procedures and do not ensure a comprehensive digital transformation of HR processes.

In this regard, a research problem arises concerning the development of models and methods for the digitalization of HR management systems in security-oriented organizations, which will allow for increasing the efficiency of HR processes and ensuring their adaptability to changes in the external environment. Despite a significant body of research in the field of HR management digitalization, the issue of creating integrated digital services for HR management in security-oriented organizations requires further scientific study.

The objective of this article is to develop models and methods for the digitalization of HR management systems in security-oriented organizations based on the creation of an electronic cabinet for employees, which will enhance the efficiency and adaptability of HR process management.

To achieve this objective, the following tasks must be addressed:

- analyze the current state of HR process digitalization in security organizations;
- develop a conceptual model of the digital transformation of HR processes;
- formalize the relationship between the parameters of digital HR project management;
- develop a method for digitizing HR processes based on the creation of an electronic cabinet for employees.

Solution

To achieve the stated objective, this paper examines the theoretical and practical aspects of the digitalization of HR processes in security-oriented systems. In today's world, where technology is rapidly evolving, digital transformation is of particular importance for systems responsible for ensuring public safety. [9] The effectiveness of security-oriented systems is largely determined by the human factor, namely the preparedness, professionalism, and psychological resilience of the personnel. In this regard, human resources management in security-oriented systems requires a modern approach based on the principles of digitalization, automation, and analytical management methods. The theoretical part of the article is devoted to establishing the scientific foundations of the digital transformation of HR processes in security-oriented systems. Within the scope of the study, the feasibility of considering HR management as a complex organizational and managerial system operating under conditions of heightened requirements for the reliability, security, and efficiency of managerial decisions is substantiated. Based on an analysis of modern approaches to the digitalization of personnel management and project management in complex organizational structures, the key principles of the digital transformation of HR processes in security structures are identified.

In the theoretical section, a conceptual model of the digital transformation of HR processes in security-oriented systems has been developed, based on the integration of personnel, organizational, and information security components into a single digital environment. The proposed model reflects the logic of the transition from fragmented paper-based personnel management to centralized digital HR management using electronic self-service platforms. The conceptual model includes the following interconnected components: HR processes (hiring, transfers, contract signing, personnel records); information flows (data entry, verification, storage, and updating); digital management tools (employee portal, database, electronic document management modules); information security and access control mechanisms; system users (staff, HR department, management). The proposed model formalizes HR processes and establishes a methodological foundation for developing a practical approach to digitizing HR activities in security-oriented organizations.

At the center of the diagram is "Digital Transformation of HR Processes in Security-Oriented Systems," which serves as the core and strategic direction for the development of HR work in the security sector. This element reflects a process of profound change in the HR management system – from traditional, paper-based, or manual procedures to managed digital platforms that support routine HR processes.

A gradual transition from routine, repetitive HR tasks to highly adaptive information networks and automated communication within the civil service, based on the standardization and streamlining of internal HR management operational processes. Such a transition is possible precisely because of digital transformation. It offers benefits that go far beyond simply increasing

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resilience to crisis conditions, both for the country as a whole and for its civil servants, companies, and the public administration sector. Digitalization will increase the state's adaptability and influence in the country's changing environment. The digital transformation of HR management operational processes will improve holistic state governance, with a focus on ensuring access to personnel data and the availability of online services for staff. Digital tools enable government agencies to stay connected with personnel and receive feedback from them. At the same time, the digital transformation process is accompanied by a number of organizational and technological challenges; Figure 1 lists the barriers hindering the development of HR digitalization in security agencies. A high level of uncertainty in the external environment, the absence of an innovation culture that fosters risk-taking, insufficient budgets and a vague corporate vision, a lack of opportunities for staff training and development, as well as weak technological and analytical skills. Added to this are insufficient support from management and the unsatisfactory quality and availability of personnel data. These aspects reflect common challenges faced by government agencies in the digitalization process. Among the main obstacles are limited resources, the inertia of management systems, and a shortage of qualified personnel.

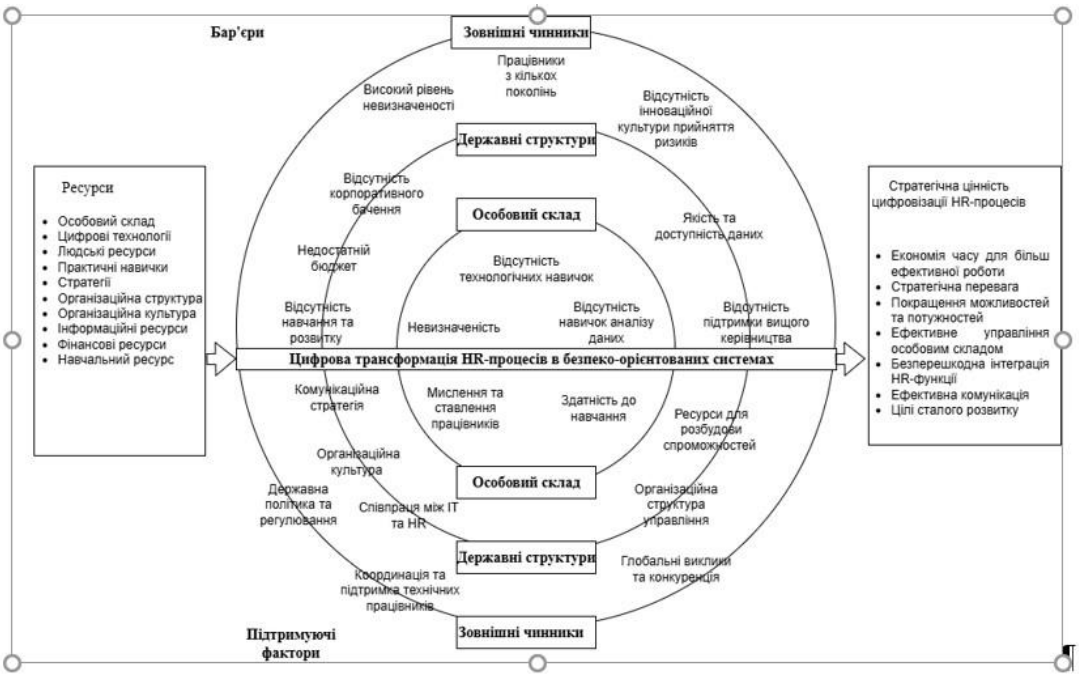

Fig.1. A model for the digital transformation of HR processes in security-oriented systems

Within the scope of this study, the effectiveness of an HR system is viewed as the ability to ensure the achievement of organizational goals with minimal expenditure of time and resources. The adaptability of an HR system is defined as the ability of the human resources management system to respond quickly to changes in the external and internal environment, including changes in departmental structure, staffing needs, and operational tasks. Thus, effectiveness characterizes the performance of HR processes, while adaptability reflects their flexibility and ability to quickly restructure.

Alongside these barriers, there are also factors that contribute to the successful implementation of the digital transformation of HR processes. These are also illustrated in Fig. 1. A communication strategy that ensures effective internal interaction between departments promotes the alignment of strategic decisions and the creation of a unified information space for security-oriented systems. An organizational structure focused on openness to change and support for innovation, creating a conducive environment for the implementation of digital technologies. It helps employees improve, act, and adapt to new ways of working. Government policy and the regulatory framework create the legal conditions for the implementation of digital technologies in human resources management for security-oriented systems. Legislative support for this process will enable the implementation of digital initiatives aligned with development strategies and ensure compliance with

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information security standards. Cooperation between IT departments and security-oriented systems is a necessary prerequisite for developing integrated technological solutions, which allows for the automation of HR management processes and improves the effectiveness of HR data analytics [10]. Coordination and technical support for staff ensure the stable operation of digital systems, the prompt resolution of technical issues, and the adaptation of employees to new technological changes. The development of learning skills and digital literacy is a key condition for the successful transformation of HR processes. Building competencies in the use of digital tools enhances employees' professional skills and contributes to improving the overall effectiveness of HR management. [16] These factors act as catalysts for innovation in security-oriented systems, promoting more efficient resource utilization and improved management processes.

Figure 2 illustrates the expected outcomes of digital transformation, which are of strategic importance for security-oriented systems. Time savings and increased operational efficiency are achieved through the automation of routine processes and a reduction in the administrative burden on staff. A strategic advantage is ensured by rapid access to up-to-date information and analytics, as well as the ability to make timely decisions. Human resource capacity is enhanced through the use of digital tools for assessment, forecasting personnel needs, and career development planning [12–14]. Effective workforce management is achieved through centralized systems for accounting, control, and resource planning. Seamless integration of HR functions facilitates the consolidation of all aspects of HR work. Effective communication within the system allows for the rapid transfer of information between departments, enhancing coordination and collaboration. Achieving sustainable development goals involves increasing the social, economic, and environmental sustainability of security-oriented systems.

Fig.2. Digital transformation of HR processes in security-oriented systems

Thus, the digital transformation of HR processes in security agencies is not merely a technical upgrade, but a strategic step toward creating a modern, adaptive, and resilient organization where every employee becomes part of a unified digital management ecosystem.

To implement these approaches in practice, it is necessary to analyze the resources that enable the digital transformation of HR processes in security-oriented systems. Based on the data presented in Fig. 3, the organizational structure was analyzed, covering all categories of security-oriented systems. The sheer scale of human resources results in the high complexity of organizing and supporting HR processes, including personnel record-keeping, contract drafting and renewal, management of personnel transfers, monitoring of social benefits, and compliance with legal requirements. The issue of effective personnel management becomes particularly relevant given the limited size of HR departments, as evidenced by the ratio of the total number of HR managers at both the central and regional levels. In this regard, the digitization of HR processes is not merely a tool for optimization but a necessary condition for ensuring the effective functioning of security-oriented systems.

Without digital tools, organizations face difficulties in maintaining personnel records, generating documents in a timely manner, conducting performance reviews, managing leave, calculating seniority and length of service, and carrying out other mandatory procedures. In a system dominated by operational personnel and where HR information is constantly updated, delays or

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errors can have serious consequences for organizational readiness and management decisions. Fig. 3 depicts the large-scale, multi-level organizational structure of a security-oriented system, characterized by a significant number of management levels and a complex chain of command. The structure encompasses the administrative apparatus, numerous departments, divisions, sectors, and subordinate units, among which there are both line and functional relationships. Each level includes dozens of structural units and hundreds of positions, and collectively – thousands of positions with varying statuses. Such a ramified hierarchy complicates personnel management, position tracking, control of reporting lines, and personnel transfers, underscoring the need for a systematic and automated approach to HR processes in security-oriented systems.

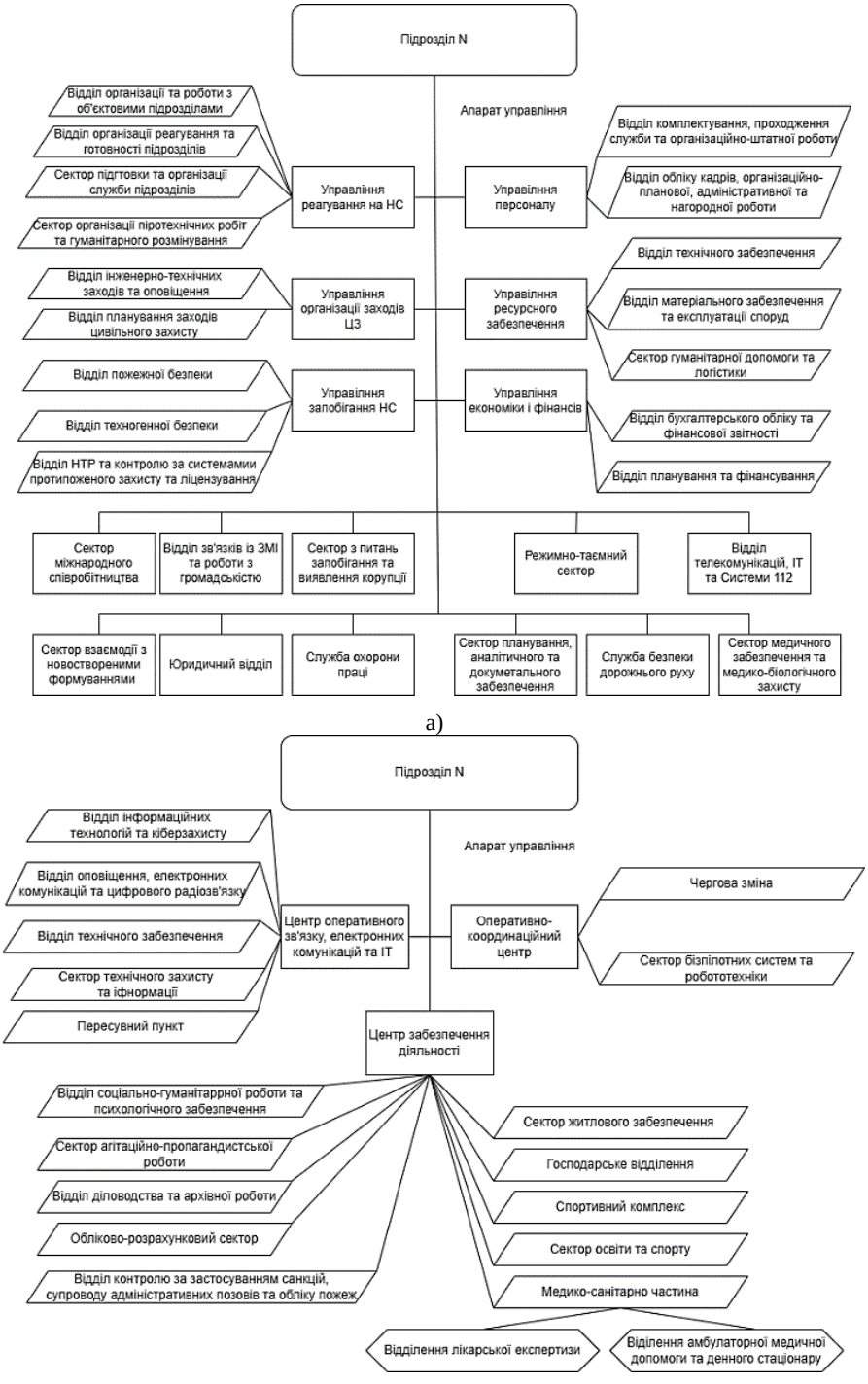

Fig 3. Organizational structure of security unit N: a) structure of the administrative staff of unit N; b) structure of the support center for unit N

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In the context of ensuring information security (*D*) of security-oriented systems, especially amid the intensive digitalization of internal operational processes, the structural management model is of key importance [15]. This model defines the cause-and-effect relationships and dependencies necessary to achieve the target security state. The fundamental dependency relationship governing the implementation of information security measures is described by Equation 1

$$\left.\begin{array}{l} E_i \in \langle t_1, t_2, \dots, t_i; i = 1 \dots n \rangle \\ Ps_i \in \langle c_1, c_2, \dots, c_j; j = 1 \dots n \rangle \\ IT_i \in \langle q_1, q_2, \dots, q_k; k = 1 \dots n \rangle \end{array}\right\} \Rightarrow P_i \Rightarrow D_i , \quad (1)$$

where E_i – the environment of the *i*-th digitalization project; P_i – HR process digitalization project; IT_i – department's IT infrastructure; t_i – project implementation time; c_j – project cost; q_k – quality of the result; D_i – degree of HR system digitalization. The indices i, j, and k are used to represent the various dimensions of the project management triad (time–cost–quality) in the HR process digitalization program.

The proposed model for the digitalization of HR processes is based on the principles of project-oriented management, which complies with current PMBOK and P2M standards. Within this model, HR processes are viewed as a set of managed operational projects with defined parameters for time, cost, and quality. This approach allows for the formalization of the digital transformation process and enables a quantitative assessment of the degree of digitization of the HR system.

The digital transformation of public administration is one of the key areas for modernizing the public sector and improving the effectiveness of security agencies. This issue is particularly relevant in the field of human resources management, as the effectiveness of security-oriented systems depends to a large extent on the quality of human resources, the speed of managerial decision-making, and the efficiency of information processing.

In today's environment, HR processes in security agencies are characterized by highly complex organizational structures, a large workforce, and a multi-tiered management system. Traditional approaches to personnel record-keeping, based on paper-based document flow or fragmented information systems, do not ensure sufficient efficiency, transparency, and integration of HR processes.

Within the scope of this study, the effectiveness of an HR system is viewed as the ability of the personnel management system to ensure the achievement of organizational goals with minimal expenditure of resources, time, and managerial effort. In contrast, the adaptability of an HR system is defined as the system's ability to respond quickly to changes in the external and internal environment, including changes in departmental structure, staffing needs, functional tasks, and regulatory requirements. Thus, effectiveness characterizes the performance of the human resources management system, while adaptability reflects its flexibility and capacity for transformation under conditions of uncertainty.

One promising approach to addressing these issues is the implementation of digital HR management systems, which ensure the integration of HR data, the automation of HR procedures, and support for management decisions based on up-to-date information.

Based on the provided sources, the conclusion regarding the cause-and-effect relationship between safety management, operational projects, and the achievement of safety (described by Formula 1) is visually represented by a schematic diagram and a description of key components [18, 19].

The practical part of the article is devoted to the implementation of the proposed theoretical principles and conceptual model of the digital transformation of HR processes in security-oriented systems in the form of an applied method for digitizing HR activities. Practical testing was carried out by developing and implementing a method for digitizing HR processes based on the creation of an employee's E-office, which functions as an integrated digital environment for personnel management. Within the practical component, the phased automation of key HR procedures was implemented, including the formation of a digital organizational structure, centralized personnel accounting, management of personnel transfers, and electronic document management. Particular attention was paid to the implementation of a method for the automated generation of electronic contracts, their storage, verification, and signing using a qualified electronic signature. The practical part also includes the implementation of user authentication mechanisms, the differentiation of access rights in accordance with the organizational structure, the integration of a relational database and a web interface, as well as the application of tools for administering and ensuring the integrity of personnel data.

Within the scope of the study, a method for digitizing HR processes in security-oriented systems was developed, implemented through the creation of an employee's E-office. The proposed method aims to formalize, automate, and centralize HR processes by

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transferring key HR operations to a secure web environment using modern web technologies, server-side logic, and relational databases. The digitization method through the creation of an employee's e-office is based on the centralized storage of HR data in a unified digital environment, the phased automation of key HR procedures, the differentiation of access rights in accordance with the organizational structure, the integration of electronic document management with electronic signature mechanisms, as well as ensuring the integrity and reliability of HR information throughout the entire lifecycle of HR processes.

Fig.4. Schematic diagram and description of key components

The proposed method for digitizing HR processes based on the creation of an employee's E-cabinet is illustrated in Fig. 5 as a series of sequential steps, covering the formation of a digital organizational structure, user authentication and access rights management, the entry and administration of HR data via a web interface, automated generation and centralized storage of electronic contracts, as well as their verification and signing using a qualified electronic signature, which ensures the legal validity and controllability of HR processes in a security-oriented digital environment.

Fig.5. Stages of implementing the eployee E-cainet method

As part of the study, a database structure for an electronic HR document management system was developed, implemented using PostgreSQL. The graphical tool DBeaver (Fig. 6) is used to administer and visualize the database structure. The results include a detailed description of the architecture for user interaction with the web interface, mechanisms for validating entered data, and technological procedures for the automatic generation of contracts. As part of the study, an approach was proposed for storing created electronic documents in the database, their subsequent administration, and confirmation by both the administrator and the user. The analysis demonstrated the effectiveness of the developed method, which guarantees the integrity and authenticity of electronic contracts as well as the convenience of their processing, thereby contributing to the automation and optimization of HR processes in electronic document management within a digital environment.

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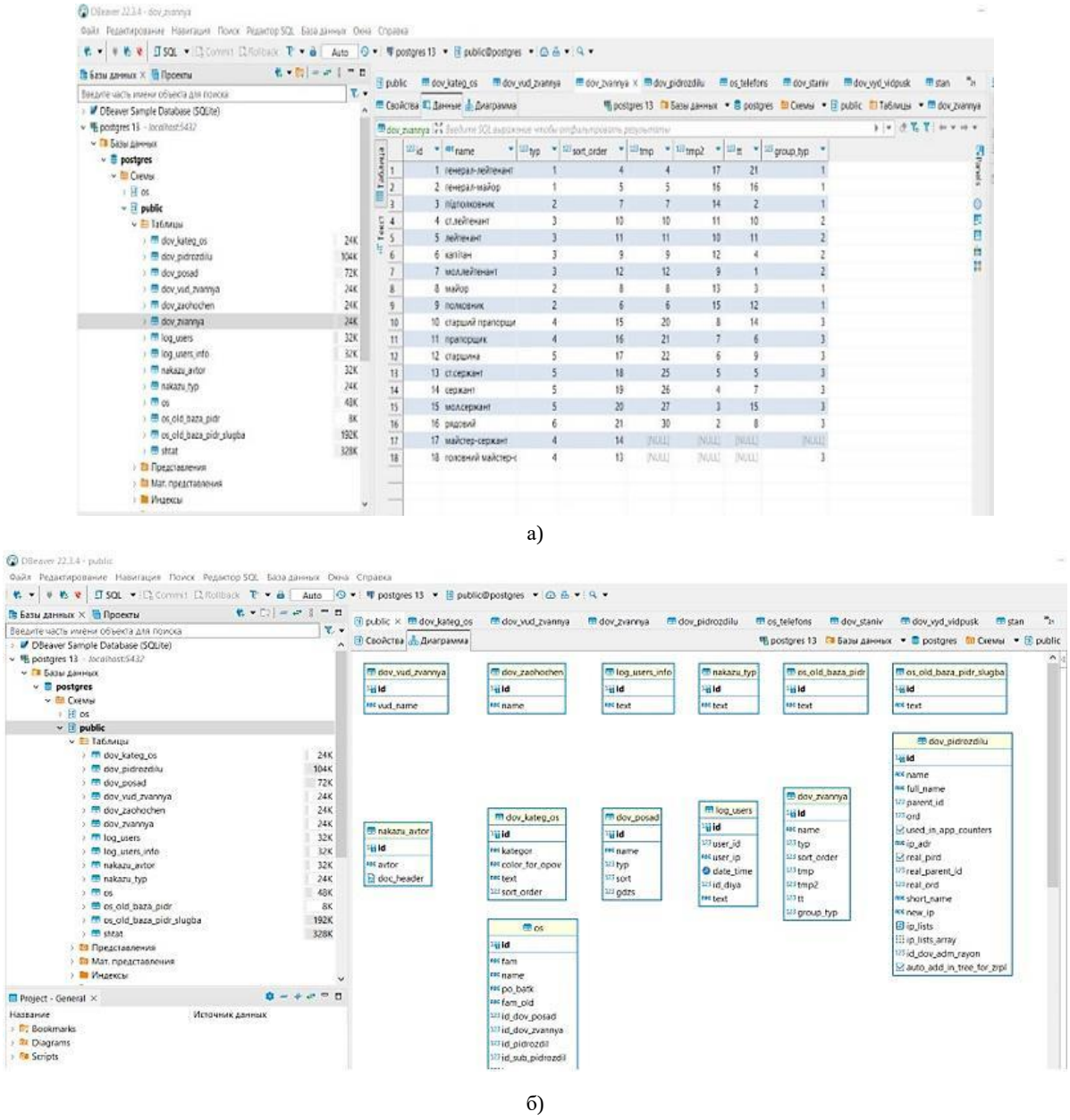

а)

б)

Fig.6. The DBeaver graphical tool for working with PostgreSQL databases**:** a) database interaction; b**)** user table database corresponding to the organizational structure

Following this, an authorization process was implemented using the PHP programming language, incorporating various login methods. User tables were created in the database to correspond to the established organizational structure. In addition, relationships between these tables were properly configured, ensuring correct data integration and interaction between system objects. An organizational structure for Department N was developed, allowing for the appointment of officials and their transfers both within Department N and outside of it. The process of entering transfer data is carried out via a web interface, followed by synchronization with the database.

A table listing personnel has been generated, with the ability to enter employee data via the web. Photo upload functionality has been configured. Photos are stored on the server; if a photo is edited, it is saved to the server's file system with a unique file identifier. A list of structural units and their hierarchical relationships has also been developed in a "tree" structure, with the ability to edit and add entries on the web page, followed by synchronization with the database [17].

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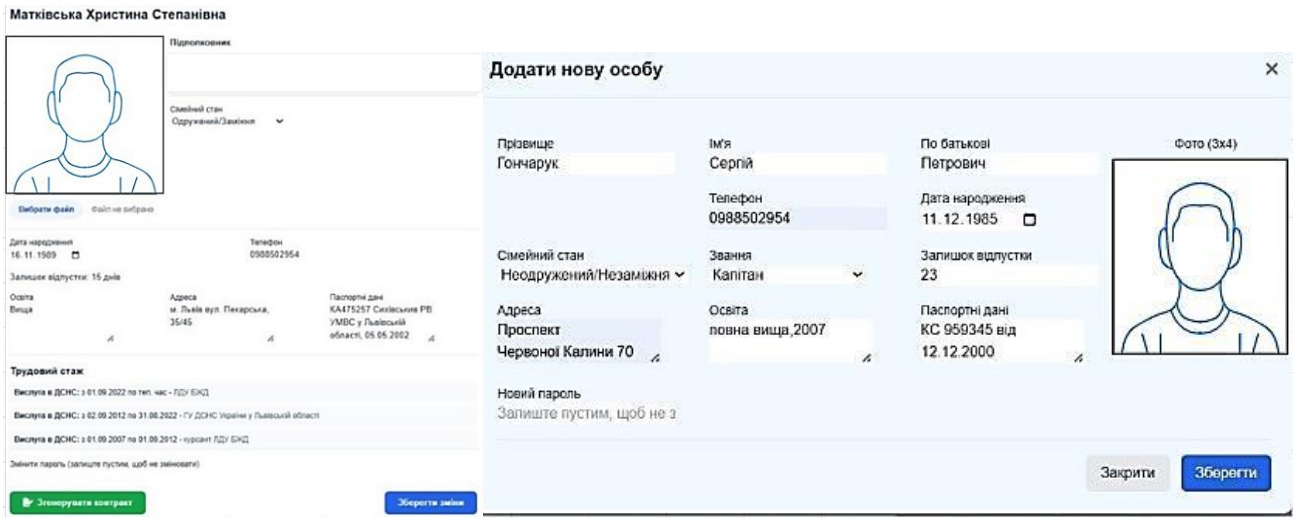

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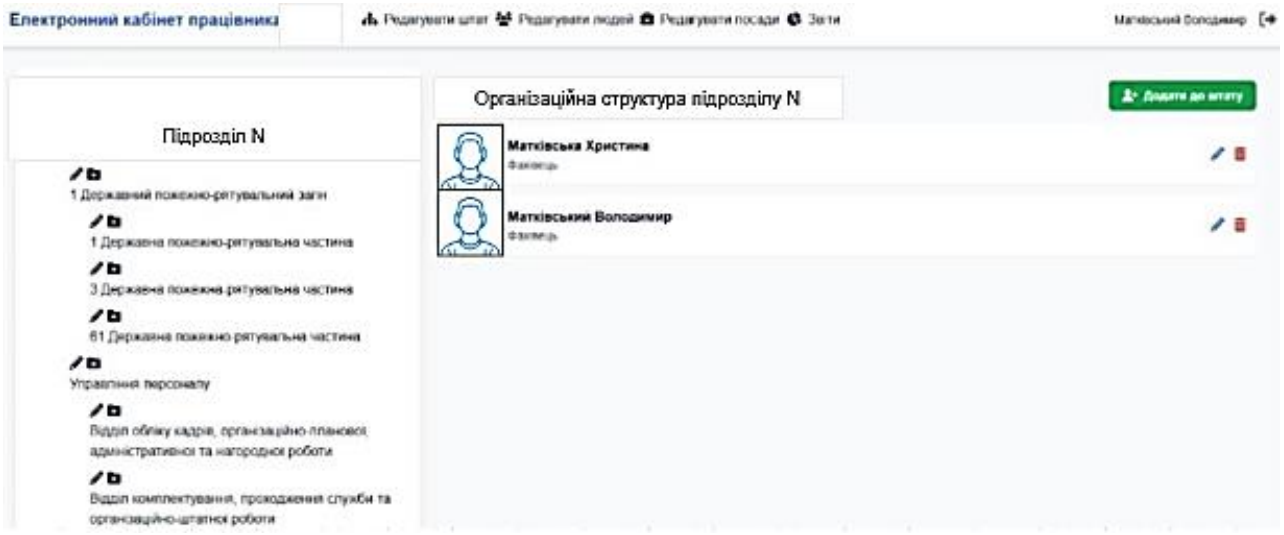

б)

Fig.7. Web interface for the Electronic Cabinet of Security Department Employee N: a) E-cabinet containing personal information and the ability to edit and add new employees; b) list of the organizational structure in the database

The diagram illustrates the general logic of the system's operation: from submitting an application via the website to the final stage of managing and verifying electronic documents. The proposed approach automates document flow, improves the efficiency of information processing, and helps create a user-friendly and intuitive environment for users of the information system.

The process begins when a user who wishes to enter into a contract or is an HR department employee opens the web application in a browser. This may be a secure web portal hosted on a local server or within the civil protection agency's network infrastructure. The request is processed by the Apache HTTP Server, which redirects it to the PHP interpreter. The authentication system, designed to ensure data security, may require logging into a personal account. Access to the contract form is restricted to authorized users only. The process proceeds to the display of the application form. At this stage, the user gains access to a web form designed for entering the personal and professional data required to create the contract. The form is developed using HTML, styled with CSS, and PHP is used for dynamic generation of elements, such as loading a list of positions from the database. Typical fields: selection of contract type (civil protection service; training (civil protection service); civil protection reserve); last name, first name, patronymic; date of birth; rank; job title; residential address; passport details; selection of contract term (1–5 years; for the duration of training; for 5 years).

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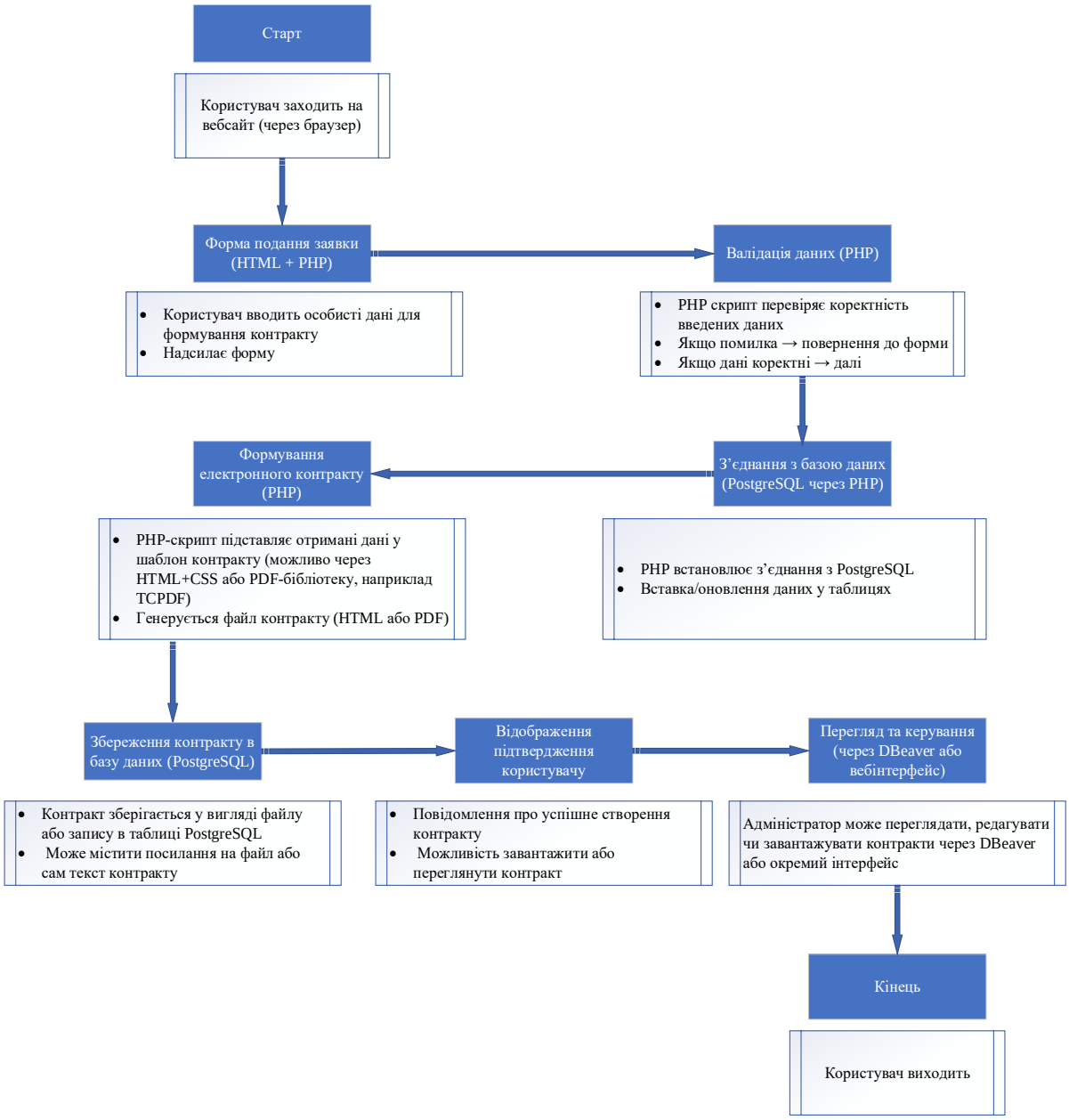

Fig.8. Scheme of the process for generating an electronic version of a contract for security agencies

The form may also include elements for confirming agreement with the terms and conditions, adding an electronic signature, or uploading additional documents, such as passport scans, etc. Validation of entered data (PHP). In the PHP script that processes data received from the form, a preliminary check (validation) of the entered information is performed before executing any database operations or creating documents. If errors are detected, the user will be shown a message with a detailed description of the problem and recommendations for resolving it. The next step is connecting to the database. After validating the data, the script initiates the process of connecting to the database. Additionally, logging may be implemented, which includes a change history and records of all user actions for further analysis or audit. The central step in the process is the creation of an electronic contract. Information obtained from forms and the database is integrated into the contract template. This process can be implemented in two main ways: using an HTML + CSS template to view the document directly in the browser, or generating a PDF file using PHP libraries. After that, the process moves to the next stage of saving the contract in the database. Once generated, the document can be processed by saving it to the server's file system in .pdf or .html formats, with the path to this file entered into

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the database, or by saving it directly to the database as a BLOB (binary object) or text field.

A record is created in the contracts or documents table containing the following data:

– User ID.
– Contract type.
– Status (e.g., created, signed, rejected).
– Creation date and time.
– Link to the file or document content.
– Notes or comments from HR.

This ensures centralized storage of all documents and allows for effective tracking of their status. After the contract is successfully generated, the system notifies the user that the process is complete and provides the option to view the contract in HTML format directly in the browser; download a copy of the document in PDF format; save the file locally on the device; send the contract for signature if integrated with an electronic digital signature (EDS) or a qualified electronic signature (QES).

Additionally, the user can choose to navigate to the history of created contracts or to a page that allows them to confirm or edit documents. For administrators or HR specialists of security-oriented systems, there is the ability to effectively view, analyze, and edit data using the DBeaver interface – a multifunctional SQL client. If necessary, a separate web interface can also be configured for administrative tasks, including user authorization and access rights management. The user gains access to the generated document, and the database is updated accordingly. The contract becomes available for viewing, signing, printing, or further processing. If necessary, the system can be integrated with government information services, such as electronic document management systems, government registries, or electronic digital signature platforms. Such integration significantly enhances the legal validity of the document and facilitates its use in formal and legal relationships.

Table 2. *Technologies in the contract generation process*

Stage of the process	Technology	Description
1–2	HTML + PHP	Creating an input form
3	PHP	Data validation
4	PHP + PostgreSQL	Connecting to the database
5	PHP (TCPDF or templates)	Generating a contract
6	PostgreSQL	Saving
7	HTML + PHP	Displaying the result
8	DBeaver	Viewing and managing

Conclusions

The study demonstrates the need for digital transformation of HR processes within security agencies, driven by their complex organizational structure, large workforce, and multi-tiered management system. Traditional approaches to human resources management do not ensure sufficient responsiveness, transparency, and efficiency of HR procedures, which highlights the need to implement digital HR management tools. The following scientific results have been developed and presented:

1. A model of digital transformation of HR management in security-oriented organizations has been proposed, integrating the organizational, informational, and analytical components of digital HR management.

2. The imbalance between the organization's scale and the number of HR specialists was analyzed based on the designed organizational structures of security unit N.

3. The interaction between security management, operational projects, and the achievement of security was formulated and visually represented through a schematic diagram and a description of key blocks.

4. The software architecture of the Employee E-cabinet has been developed, which automates core HR processes.

Areas for further research:

1. The practical outcome is a strategic concept within the Employee E-cabinet project. This tool is designed to address the specific needs of government agencies. Its concept involves creating a digital self-service environment for employees by automating routine tasks, simplifying access to personal data and documents, and increasing the overall transparency of processes. A key finding of the study was that the implementation of such solutions significantly improves the efficiency of HR systems and employee satisfaction with their work environment.

2. A method of digitalization is proposed through the creation of an employee E-cabinet, and the mechanism for its implementation is detailed using

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the example of automating the process of concluding electronic contracts using modern web technologies and electronic identification tools. This creates a solid foundation for the further implementation of HR technologies in the operations of security-oriented systems.

Conflict of interest

The authors declare that they have no conflicts of interest, including financial, personal, authorial, or any other nature, that could influence the research or the results published in this article.

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Use of artificial intelligence

The authors confirm that they did not use artificial intelligence technology in the creation of this paper.

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СИСТЕМА ЦИФРОВОГО HR-МЕНЕДЖМЕНТУ БЕЗПЕКОВИХ СТРУКТУР НА ОСНОВІ Е-КАБІНЕТУ ПРАЦІВНИКА

Предметом є методи та моделі, операційні процеси цифровізації системи HR-менеджменту в безпеко-орієнтованих системах. **Метою** роботи є розробка методів і моделей управління проєктами цифровізації операційних процесів системи HR-менеджменту в безпекових структурах для підвищення їх ефективності та адаптивності. У статті вирішуються такі **завдання**: розроблено концептуальну модель цифрової трансформації HR-процесів у безпеко-орієнтованих системах, розроблено модель цифровізації кадрових процесів на основі створення Е-кабінету працівника, розроблено та описано методи автоматизованої генерації електронних контрактів та їх підписання з використанням КЕП. Використовуються такі **методи**: методи моделювання зокрема графічне та структурно-логічне моделювання, що дозволило побудувати комплексну модель цифрової трансформації та централізовану модель управління. Здобуто такі **результати**: розроблено концептуальну модель цифрової трансформації HR-процесів у безпеко-орієнтованих системах, яка формалізує

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взаємодію кадрових, організаційних та інформаційно-безпекових компонентів. На основі запропонованої моделі обґрунтовано та розроблено метод цифровізації HR-процесів шляхом створення Е-кабінету працівника, що забезпечує централізацію та автоматизацію ключових HR-операцій. У межах реалізації методу розроблено і описано метод автоматизованої генерації, збереження та підписання електронних контрактів із використанням кваліфікованого електронного підпису, що гарантує юридичну значущість та цілісність електронного документообігу. Покращено процес прийняття управлінських рішень завдяки консолідованому доступу до даних у реальному часі та можливостям HR-аналітики, можливість використання розроблених моделей та методів як основу для планування та управління проєктами цифрової трансформації в інших силових структурах України, адаптуючи їх до специфіки конкретних підрозділів. **Висновки**: впровадження узгодженої стратегічної політики з розробки та використання інформаційних даних сприятиме модернізації та прискоренню процесів ухвалення рішень у різних аспектах безпеко-орієнтованих систем. Таким чином, зазначене вище підкреслює важливість цифрових технологій у реалізації пріоритетів державних служб, зокрема їх доступність для особового складу, а також підвищення ефективності та впровадження інноваційних рішень.

Ключові слова: цифровізація, автоматизована комунікація, державні структури, HR-менеджмент, безпеко-орієнтовані системи.

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