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DETERMINANTS OF THE EFFECTIVE MANAGEMENT OF LOGISTICAL PROCESSES IN THE STATE SECURITY AND DEFENCE SYSTEM

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Abstract: Proper functioning of security and defence systems is determined by a number of various factors, among which an important role falls on logistical issues. As the experience has shown so far, it is the logistical processes that in many cases determine correct implementation of a number of key projects for the security and defence of the state.
In view of the above, the aim of the article is to identify the determinants of the contemporary effective management of logistical processes taking place in the state security and defence system. The research problem to be solved was formulated in the form of a question: what factors determine today's effective management of logistical processes related to socio-economic development, as one of the essential elements of state security and defence?

Keywords: security, defence, efficiency, management, logistical processes.

DETERMINANTY EFEKTYWNEGO ZARZĄDZANIA PROCESAMI LOGISTYCZNYMI W SYSTEMIE BEZPIECZEŃSTWA I OBRONNOŚCI PAŃSTWA

Streszczenie: Prawidłowe funkcjonowanie systemów bezpieczeństwa i obronności determinowane jest szeregiem różnorodnych czynników, wśród których istotna rola przypada kwestiom logistycznym. Jak wskazują dotychczasowe doświadczenia to właśnie procesy logistyczne w wielu przypadkach warunkują prawidłową realizację szeregu przedsięwzięć kluczowych dla bezpieczeństwa i obronności państwa.
W świetle powyższego za cel artykułu przyjęto identyfikację czynników warunkujących współcześnie efektywne zarządzanie procesami logistycznymi zachodzącymi w systemie bezpieczeństwa i obronności państwa. Podjęty do rozwiązania problem badawczy został sformułowany w postaci pytania: jakie czynniki determinują współcześnie efektywne zarządzanie procesami logistycznymi związanymi z rozwojem społeczno-gospodarczym, jako jednym z istotnych elementów bezpieczeństwa i obronności państwa?

Słowa kluczowe: bezpieczeństwo, obronność, efektywność, zarządzanie, procesy logistyczne.

1. Introduction

The recently observed evolution of the external conditions of Poland's security, as well as changes taking place inside our country, force us to undertake a number of activities adjusting the state's security and defence system to the contemporary and forecast realities and requirements. The work carried out at the central and local level is directed largely at a full integration of the planning and preparation process for all entities that are part of the security and defence system. One of the important areas determining the proper functioning of these systems is the improvement of the sphere of physical flows of goods between its elements. As experience shows so far, it is logistical processes in many cases that condition the implementation of many projects implemented as part of socio-economic development. According to the provisions of a number of strategic documents, it is a socio-economic development that is currently considered a prerequisite for ensuring Poland's external and internal security.

In view of the above, the aim of the article is to identify key factors that determine the effective management of logistical processes occurring in the state security and defence system. The research problem to be solved was formulated in the form of a question: what factors determine effective contemporary management of the logistical processes related to socio-economic development, as one of the essential elements of the state security? Theoretical as well as empirical methods were used to achieve the assumed goal and solve the formulated problem. The adopted approach made it possible to obtain a cross-cutting character of the considerations, at the same time providing the basis for further, extended research on this extremely complex problem. The article uses strategic documents, compact studies and periodic materials. As a result of the research, the conclusions and postulates regarding the improvement of the efficiency of logistical processes management in the state security and defence system, have been formulated.

2. The role and significance of the logistical processes in the security and defence system of the country

Ensuring the security of the state and its citizens is one of the fundamental tasks that the Constitution of the Republic of Poland imposes on all entities that create state structures. According to art. 5. "The Republic of Poland safeguards independence and inviolability of its territory, guarantees freedoms and human and civil rights and the safety of the citizens, protects national heritage and ensures environmental protection, guided by the principle of sustainable development" (Konstytucja Rzeczypospolitej Polskiej…). Such formulated provisions

explicitly indicate the priority role of security and defence systems for communities organized in the form of the states. The security, which is the highest value for all entities, "manifests itself in all areas of its activity. Therefore, its structure is in fact identical to the structure of the entity's functioning. Within the international and national security there are such security areas as e.g. economic, social, military, public, ecological, information or logistical security. In addition, such divisions of security as internal and external one are indicated, depending on where they are located and where they come from (from the inside or outside of the entity). Most often security is defined as both a state (achieved sense of security of a given entity) as well as the process (ensuring the sense of security of the entity). The second approach is more practical, reflecting the natural, dynamic nature of the security phenomenon. In this sense, security of a given entity is the field of its activity, whose content is to ensure survival (existence) and the freedom to pursue its own interests in a dangerous environment, in particular by using opportunities (favourable circumstances), facing challenges, reducing risk and preventing (preventing and resisting) all kinds of threats to the entity and its interests" (Koziej, 2011, p. 20).

Ensuring such understood security requires a properly organized system, i.e. **a state security system** that "includes forces, means and resources designated by the state to carry out tasks in this area, appropriately organized, maintained and prepared. It consists of a management subsystem and executive subsystems, including operational subsystems (defence and protection) and subsystems of support (social and economic) (Strategia Bezpieczeństwa…, 2014, p. 13). From the perspective of the considerations undertaken, particular attention should be paid to the executive subsystems created by "forces and means foreseen for the implementation of tasks in the area of national security, remaining at the disposal of security management bodies. They are divided into the following subsystems: operational (defence and protection) and support (social and economic). The operational subsystems are designed to seize opportunities, take challenges, reduce risks and counteract political, military and non-military threats. Social and economic subsystems provide them with the appropriate capabilities and resources" (Strategia Bezpieczeństwa…, 2014, p. 13).

Moreover, it should be emphasized that "in the legal sense, the national security system is not a state structure functioning autonomously. The essential form of its organization and operation remains the state defence system (SDS), maintained in order to ensure the protection of vital national interests, and in particular the sovereignty and independence of the Polish nation, it's right to territorial integrity and inviolability of the borders" (Strategia Rozwoju…, 2013, p. 14). It is worth pointing out that in the existing strategic documents it was recognized that strengthening the efficiency and coherence of the national security system is the main goal of their development. It is assumed that "efficiency will be achieved by improving the efficacy of the essential elements of the national security system, cohesion – through increasing integration between public policies and security policy, and strengthening cooperation and

coordination, and ultimately achieving integration within the national security system" (Strategia Rozwoju…, 2013, p. 7).

Achieving the above main objectives depends on a number of diverse factors, among which strictly logistical aspects play an important role. Such a position results directly from the key role that logistical processes play in the functioning of the entities of the national economy and all elements of the state security and defence systems. From the perspective of the considerations it should be pointed out that key logistic processes should include (Figure 1): **essential processes**, e.g. forwarding, transport, warehousing, packing and assembling the loads; loading, reloading and unloading processes; **auxiliary processes**, e.g. repair and renovation processes, drafting the order fulfilment, labelling, offering logistical services; **information processes**, e.g. documenting and monitoring activities and processes; **service processes**, also called "managerial" processes, e.g. forecasting and planning activities, negotiating and concluding contracts, setting priorities and financing activities (Łunarski, 2009, p. 20-21).

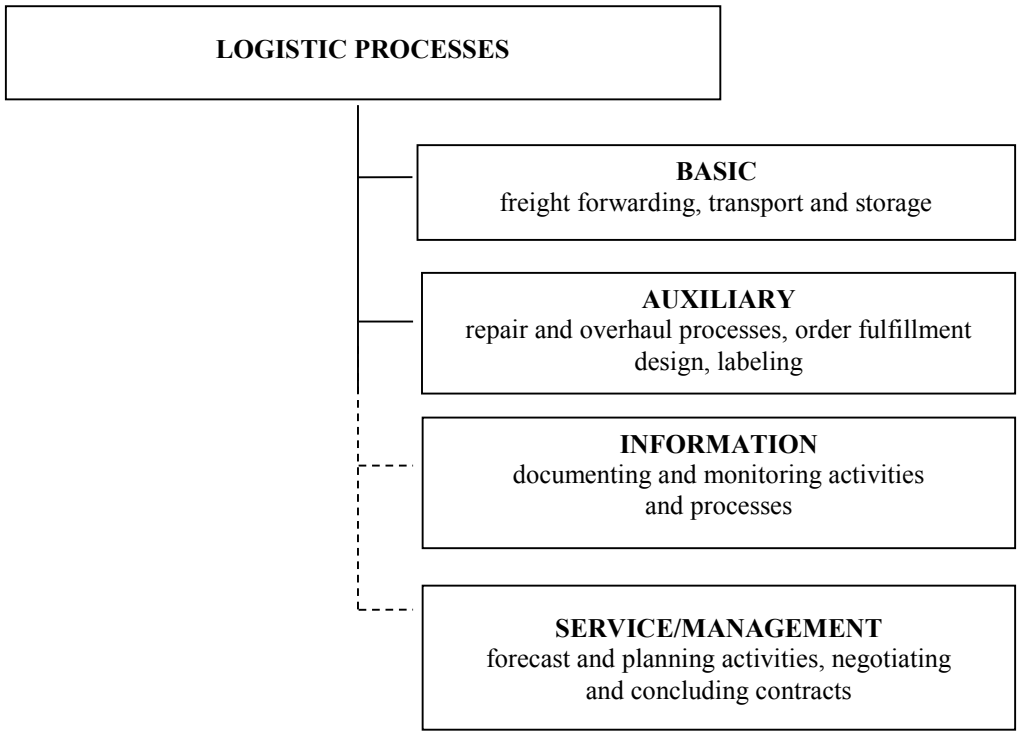

Figure 1. Key logistical processes. Source: Jałowiec, 2017, p. 83.

The classification of logistical processes presented in Fig. 1 relates directly to the economic sector. In the area of security and defence, the scope of logistical activity is much more widely perceived, because apart from strictly logistical activities it also includes all forms of activities related to satisfying the economic and living needs of entities involved in the process of ensuring state security. The scope of logistical processes implemented within the area of security and defence during peace time, crisis and war is presented in Fig. 2.

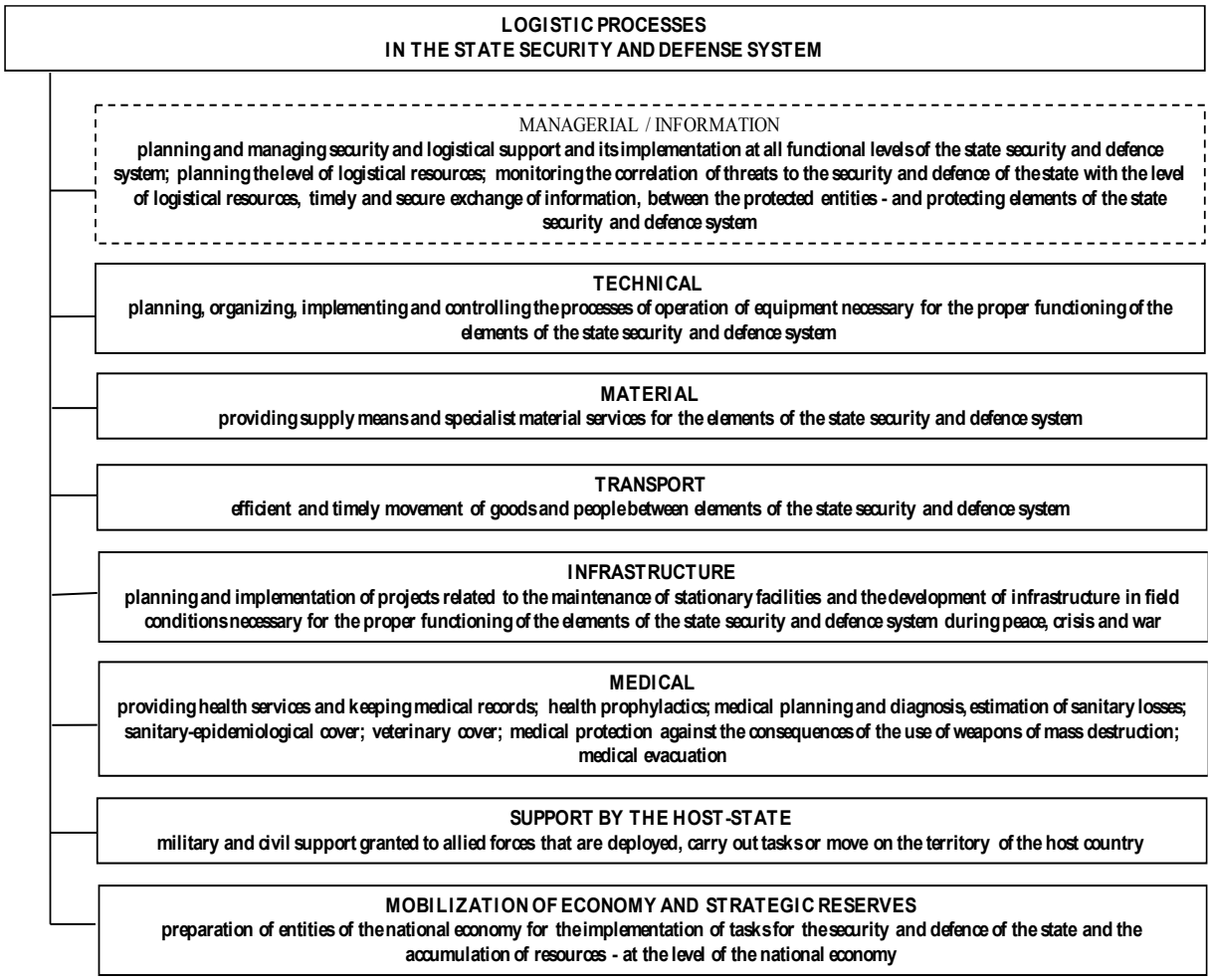

Figure 2. Logistical processes in the state security and defence system. Source: authors' own study.

The logistics processes presented in Figure 2 determine the correct implementation of tasks by the elements of the state's security and defence system. Security assurance requires cyclically providing the necessary material resources and a number of logistical services. In the light of the deliberations under consideration, special attention should be paid to the necessity of continuous improvement of logistical processes implemented within the framework of the state security and defence system. In these activities, the key determinant turns out to be the measurement of effectiveness, which is a determinant of the organization's progress and enables it to answer the fundamental question, at what stage of development the organization is currently located and where it is going and whether the organization is on its way to achieving its goals (Wysokińska-Senkus, 2013, p. 171, 173). Effectiveness understood as the relationship between the achieved effects and the level of resources involved (inputs) is a key concept, defining in a way the direction of the development activities undertaken.

In conclusion, it should be emphasized in a special way that the development of the state's security and defence system depends to a large extent on logistical aspects.

Logistical processes determine the proper functioning of the elements of the aforementioned systems, ensuring for them the conditions to implement a wide range of tasks. The improvement of logistical processes in the state's security and defence system is not possible without the

knowledge about the relation of the obtained effects to the expenditures incurred. Maximizing the efficiency is one of the fundamental goals set out by people and institutions implementing logistical security of the entities responsible for the state security and defence.

3. Maximizing the efficiency of logistical processes in the state security and defence system – empirical research

Correctly determining detailed relationship between the effects obtained and the expenditures incurred is extremely complex, but always refers to internal and external evaluation criteria, specific for a given phenomenon, process or task and changing over time. In the state security and defence system, the needs, beliefs and organizational dependencies are an extremely important criterion. The turbulent character of changes in the environment of entities responsible for the security and defence of the state and the multidimensional character of the tasks they carry out have a significant influence on the conducted analyses. This situation translates directly into the fact that the measurement of the effectiveness of logistical processes in the state's security and defence system is a multi-parametric evaluation. Its scope is determined primarily by the designated goal of the assessment and the specificity of the tasks being performed. Against the background of the specific nature of logistical processes implemented within the above-mentioned systems it is possible to indicate that the assessment of their effectiveness should primarily aim at (Jałowiec, 2013, p. 79-80):

- guaranteeing the complexity of the cost accounting for logistical tasks carried out for the entities responsible for state security and defence,
- developing a comprehensive, legally sanctioned methodology for assessing the quality of logistical tasks, taking into account the specificity of the state security sector,
- perceiving any defects and malfunctions occurring at particular stages of the implementation of the processes,
- indicating alternative possibilities of achieving better results with the same inputs (resources involved) from the perspective of a criterion given,
- indicating the ways to achieve the same results with less expenditure (resources involved),
- determining the possibility of implementing processes in crisis and extremely unfavourable situations,
- identification of the possibilities of wide cooperation between entities of the national economy.

At present, two approaches, pointing to narrower or wider range of effectiveness, are dominant in a number of considerations on this topic. Narrow understanding refers to the economic efficiency regarding the relation between the value of the expenditures incurred and

the value of the effects resulting from these expenditures. Effectiveness in this sense is closely related to technical and econo-mic effectiveness, which presents the relation between the expenditure incurred (utilized materials) and the number of goods produced. On the other hand, broad understanding of the concept "effectiveness" gives the best results in the production or distribution of goods and services achieved at the lowest cost (Dudycz, Osbert-Pociecha, Brycz, 2012, p. 320-321).

A holistic, indicator-based effectiveness evaluation requires the use of both physical and valuable indicators. Their selection is determined primarily by the overriding purpose of the analysis, the specificity of the phenomenon being studied or process and the possibilities of obtaining reliable information. the ultimate goal of the organization tasks is to reduce the con-sumption of production factors at the input of the production system or to con-tribute to the increase in results at the output – or to achieve both goals at the same time (Dudycz, Tomaszewska, 2007, p. 339). In this case, ensuring the comprehensive evaluation is a key issue and it should comprise the following stages (Cooper, Kaplan, 1997, p. 451):

- defining results of actions at individual stages of processes and results of the whole of processes,
- identification of key criteria characterizing each of the results obtained,
- selection and designation of the appropriate gauge and indicator for each of the key criteria,
- setting the goals and standards for each gauge and indicator.

In the entities managed by objectives, Key Performance Indicators (KPIs) play an important role in measuring the degree of obtained effects. These are the indicators that enable individuals to determine to what extent their strategic goals and plans are being met. Therefore, KPIs include a set of individually tailored financial and/or non-financial measures, thus becoming a management control tool that enables detection of problems in the early stages, rapid response and improvement of processes within an entity. A useful set of KPIs in the entity should meet the following conditions (Grycuk, 2010, p. 28-31):

- indicators should address issues that are important to the entity, that is, those that are defined in its strategy or directly serve its implementation,
- indicators are tailored to the situation and specificity of the sector in which the entity operates,
- the number of indicators should not be too large because the measurement should focus on monitoring of key processes instead of measuring all of them,
- each indicator must have a specific pattern (standard) for the period of study, for example the results achieved by the entity in the preceding periods,
- patterns should be corrected in the following periods (raised) in order to stimulate continuous improvement,

- only those indicators that have a real impact on employees are to be selected,
- most of the indicators should focus on customer (citizen) satisfaction processes and on their satisfaction measurement,
- data collection costs cannot be higher than the benefits of using indicators.

Detailed analysis of parametric and nonparametric methods used in the measurement of effectiveness is often undertaken in the rich literature of the subject. Due to the limitations introduced in this work, the purpose of deliberations conducted in this subsection is to demonstrate the diversity of approaches to measure organizational effectiveness. It is worth noting, however, that in comparison with the indicator-based approach and the parametric methods, the advantage of nonparametric determination of the effectiveness function is that it can be measured without having to determine the exact boundary conditions. Moreover, in many cases it is not possible to identify ineffectiveness in indicator and parametric measurements, since all enterprises behave according to assumptions, ie in optimal way. This results in the fact that the comparison between enterprises should not be considered as the main objective of the indicator-based method (Cantner, Krüger, Hanusch, 2007, p. 14).

It is extremely important, therefore, to assume that, in the case of tasks carried out by entities of the military logistics system, the creation of a coherent set of indicators is primarily related to (Nowicka-Skowron, 2000, p. 109):

- precise determination of goals of logistic activities adequate to the needs and capabilities,
- setting standards for control of the degree of accomplishment of tasks,
- setting transparent rules for the selection of performance indicators through a detailed analysis of the specific nature of the subsystems,
- taking into account the logistic structure of the functional sections and their specifics,
- compliance of the indicator with other information on the military logistic system,
- determination of the level of aggregation resulting from the practical needs in terms of assessing the effectiveness of tasks in the military logistics system.

The detailed scopes of the conducted control activities of the tasks performed within individual subsystems are contained in the sectoral documents developed in accordance with the rules and procedures specified in the Act on Control in Government Administration. However, it should be noted that the control of the effectiveness of tasks in the military logistics system depends primarily on the purpose, design and management of the given logistic process. This approach is a part of the Geary A. Rummler and Alan P. Brache concept, according to which the level of process effectiveness depends on its objectives, design and management (Rummler, Brache, 2000, p. 46).

In the light of the above, in order to solve the research problem defined in the introduction, apart from theoretical studies, it was necessary to conduct empirical research. For this purpose,

the method of a diagnostic survey was conducted using the expert interview method. The research, conducted from April to September 2017, included 9 experts, representing both protected and protecting entities (representatives of companies and institutions), as well as representatives of the world of science. It is worth noting that they had many years (from 21 to 39 years) experience in the implementation of logistical processes in the state security and defence system. Due to the limited nature of the conducted research, the developed research tool (interview chart) contained only one question referring directly to the research problem posed. It was: ***What factors and why are currently determining maximum efficiency of logistical processes in the state security and defence system?***

As a result of the research, a research material has been obtained containing expert opinions on the determinants of the maximum efficiency of logistical processes in the state security and defence system. The specialized expert positions obtained, can be generalized for the purposes of this article indicating that the priority factor for maximizing the efficiency of logistical processes in the state security and defence system, in the opinion of the respondents are three main factors, i.e.: political and economic conditions, proper and conscious "Human potential" and innovativeness.

Among the **political conditions** indicated, the most important were two groups of factors, i.e. external and internal. The first group of experts included first of all: real possibilities of cooperation resulting from membership in the North Atlantic Treaty Organization and the European Union, use of ties and relations related to cooperation within the United Nations and the United States of America, as well as building good relations with neighbouring countries. The group of internal factors includes: state policy, aimed at providing better conditions for the functioning of logistical companies, formal and legal solutions affecting the condition of the Polish economic sector, development of the country's logistical infrastructure, and the real impact of the state's economic policy on the logistical sector in Poland. On the other hand, **economic conditions** included: the level and structure of the maintained state reserves, conditions and procedures related to economic mobilization and the possibilities of using and protecting transport for the needs of state security and defence. In addition, this group includes such factors as: preparation and use of public and non-public health services in the event of a threat to the state security, preparation and the use of communication systems for the entities responsible for state security and defence, and the real conditions for militarization of organizational units performing tasks that are particularly important for the defence or security of the state.

As the second priority factor for the respondents, currently determining the maximum efficiency of logistical processes in the state security and defence system, the **right and conscious "human potential"** was indicated. In the broad commentaries, experts pointed out that it is the most important element of any organization. In addition, the opinions presented emphasized in a special way that good management is a condition for development and positive changes in the organization, which currently turns out to be crucial for entities in the area of

security and defence. When juxtaposing the opinions presented, it should also be emphasized that for proper functioning of the state's security and defence system, a correct selection of people for managerial positions is a priority. They require a number of features that allow them to manage a complex organization functioning in a turbulent environment. Experts categorized such features as: knowledge, resistance to stress, assertiveness, mediation abilities and the ability to set goals. In the comments published, up to seven respondents stressed out that today there is a phenomenon of large fluctuation of managerial staff in the state security and defence sector, which in many cases has a negative impact on the effective management of entities in these sectors.

The key factors currently determining maximum efficiency of logistical processes in the state security and defence system include **innovativeness**. It was referred to the implementation of a new or significantly improved product, process, new marketing method or a new organizational method in the activities of entities responsible for state security and defence. Experts' opinions pointed to a very broad understanding of innovation, from ground-breaking changes to small but significant adjustments in the supply chain that enable value creation. The common elements of the presented views were the necessity of: changes, novelties and orientation on creating value. Innovativeness has also been combined with the previously indicated appropriate and conscious "human potential". For the respondents, the key task is to manage the innovative activity in a systemic way, paying particular attention to: precise identification of the objectives of innovative activity, development of strategies for their implementation, selection of organizational structure favouring the rational development of innovation processes and their implementation, and selection of resources, especially human, conditioning the effective course of innovative activity.

Summing up the empirical part of the article it should be noted that effective management of logistical processes in the state's security and defence system depends on a number of different factors. The results of the research carried out indicate that, currently it should primarily include: political and economic conditions, proper and conscious "human potential" and broadly understood innovation. The opinions presented in this part of the material constitute only a part of this extremely complex and multifaceted phenomenon, and the views presented can only serve as a contribution to further, extended research. However, it should be noted that improving the efficiency of logistical processes management in the state security and defence system is indispensable in the necessary, in many respects, process of improving the flows of physical goods that guarantee the implementation of a wide range of tasks by entities responsible for state security and defence.

4. Summary

The results obtained in the research process authorize the author to make the following general conclusions.

Firstly. There are real needs for improving the efficiency of logistical processes that determine the proper functioning of the state's security and defence system.

Secondly. The efficiency of logistical processes in the state security and defence system is determined to a large extent by the **dynamics** and a **wide range of tasks** implemented by entities responsible for security and defence of the state.

Thirdly. In the process of improving logistical processes in the state security and defence system, attention should first be paid to: **the dynamics of political and economic changes** affecting the economic situation in the country, Europe and the world, the **preparation of personnel and innovation**.

Fourthly. Although logistical processes in the state security and defence system are crucial for the correct implementation of tasks, they are often **marginalized.**

The material outlines only selected aspects regarding the efficiency of logistical processes management in the state security and defence system. The limitations adopted allowed to achieve the assumed goal, while indicating the directions of further research. In conclusion, it is worth pointing to the real need to continue scientific research aimed at solving problems outlined in the material. Such activities may contribute to the improvement of the efficiency of logistical processes implemented in the state security and defence system, and thus ensure maximum state security, which remains the highest value.

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