

УДК: 330.8:338.2:378

I.F. Gudz, V.V. Krotevich

DOI: 10.36919/2312-7812.1.2023.65

ENSURING THE ECONOMIC SECURITY OF INNOVATIVE AND ACTIVE ENTERPRISES UNDER THE CONDITIONS OF THE STATE OF MARTIAL

Стаття присвячена актуальним питанням забезпечення економічної безпеки інноваційно-активних підприємств в умовах воєнного стану. Проаналізовано збитки, завдані економіці України з моменту широкомасштабного вторгнення російського агресора. З'ясовано проблеми в діяльності інноваційних підприємств що виникли внаслідок зруйнованої інфраструктури. В статті наголошується на втрати логістичних зв'язків, призупинення діяльності багатьох інноваційно-активних підприємств, недостатності фінансових ресурсів, зниження трудового потенціалу, попиту та платоспроможності населення, які потребують розв'язання задля швидкого відновлення та забезпечення діяльності інноваційно-активних підприємств.

Стаття визначає виклики та загрози економічній безпеці інноваційно-активних підприємств, пов'язані з воєнним станом. Окреслено заходи для посилення економічної безпеки діючих інноваційно-активних підприємств в сучасних умовах війни. У статті проведено дослідження сутності поняття «інноваційна безпека» та класифіковано фактори порушення економічної безпеки інноваційно-активних підприємств. Виявлено складові інноваційної безпеки інноваційно-активних підприємств та розкрито їх зміст. Створено алгоритм побудови безпеки інноваційно-активних підприємств та запропоновано алгоритм її забезпечення, що відповідає вимогам сучасності.

Для отримання сучасної інформації щодо вірогідності появи погроз інноваційній безпеці інноваційно-активних підприємств створено систему раннього попередження можливих погроз і появи кризи, що базується на діагностиці рівня інноваційної безпеки, що дозволило окреслити загальну схему ефективної системи діагностики рівня інноваційної безпеки. За результатами дослідження зроблено висновки, що головним із завдань щодо створення умов для інноваційного розвитку підприємств та її ефективного функціонування є забезпечення інноваційної безпеки як складової економічної безпеки держави.

У період постійних змін у веденні виробничо-господарської діяльності інноваційно-активних підприємств, інтенсивного розвитку цифрових технологій та постійних непередбачуваних трансформацій в середовищі функціонування спонукає кожне підприємство до посилення економічної безпеки. В теперішніх військових умовах можливо насамперед через впровадження інноваційної компоненти як основного пріоритету для ефективного управління інноваційно-активними підприємствами, яке направлене на розвиток з отриманням позитивного ефекту. Виокремлені основні складові формування економічної безпеки інноваційно-активних підприємств та доведена важливість застосування саме інноваційної компоненти для ефективного розвитку підприємства. Визначено прямий взаємозв'язок між інноваційним розвитком інноваційно-активних підприємств їх економічною безпекою.

The article is devoted to topical issues of ensuring the economic security of innovative and active enterprises in the conditions of martial law. The damage caused to the economy of Ukraine since the large-scale invasion of the Russian aggressor has been analyzed. The problems in the activity of innovative enterprises that arose as a result of the destroyed infrastructure were clarified. The article emphasizes the loss of logistics connections, the suspension of the activities of many innovatively active enterprises, the lack of financial resources, the reduction of labor potential, demand and the solvency of the population, which need to be resolved in order to quickly restore and ensure the activities of innovatively active enterprises.

The article identifies challenges and threats to the economic security of innovative and active enterprises associated with martial law. Measures to strengthen the economic security of active innovative enterprises in modern war conditions are outlined. The article examines the essence of the concept of «innovative security» and classifies the factors of violation of the economic security of innovatively active enterprises. The components of innovative security of innovatively active enterprises were identified and their content was revealed. An algorithm for building the security of innovative and active enterprises was created and an algorithm for its provision, which meets the requirements of modern times, was proposed.

In order to obtain up-to-date information on the probability of the appearance of threats to the innovation security of innovatively active enterprises, a system of early warning of possible threats and the emergence of a crisis was created, which is based on the diagnosis of the level of innovation security, which made it possible to outline the general scheme of an effective system of diagnostics of the level of innovation security. Based on the results of the research, it was concluded that the main task of creating conditions for the innovative development of enterprises and its effective functioning is to ensure innovation security as a component of the economic security of the state.

In the period of constant changes in the management of production and economic activities of innovatively active enterprises, intensive development of digital technologies and constant unpredictable transformations in the operating environment, every enterprise is encouraged to strengthen economic security. In the current military conditions, it is possible primarily through the introduction of the innovative component as the main priority for the effective management of innovatively active enterprises, which is aimed at development with a positive effect.

The main components of the formation of economic security of innovatively active enterprises are highlighted and the importance of applying the innovative component for the effective development of the enterprise is proven. A direct relationship between the innovative development of innovatively active enterprises and their economic security is determined.

Ключові слова: інноваційна стратегія, трудовий потенціал, інноваційний менеджмент, інноваційно-активні підприємства, воєнний стан, економічна безпека

Keywords: innovation strategy, labor potential, innovation management, innovation-active enterprises, martial law, economic security

Formulation of the problem. The state of war in which Ukraine has been since February 24, 2022 creates new challenges and increases the existing threats to the economic security of innovative enterprises. The presence of a large number of internally displaced persons in need of social assistance, the destruction of infrastructure, the reduction of the activity of all sectors of the economy, the reduction of labor potential due to the outflow of personnel abroad, as a result of mobilization, and other unfavorable circumstances that Ukraine is currently facing require a special approach to solving problems of ensuring the economic security of innovatively active enterprises in the country as a whole, as well as individual branches of the economy.

The current conditions of martial law are an extremely difficult stage of the functioning of the Ukrainian economy, which lead to new realities of the functioning of both the country as a whole and innovatively active enterprises. The complex of external and internal threats actualizes the problem of transformation of the management system of innovative and active enterprises, which would contribute to the development and implementation of tools for rapid response to turbulent changes in the security environment. It should also be noted that in the conditions of the military aggression of the Russian Federation against Ukraine, the problem of the security environment came to the fore

Ensuring a safe environment for the functioning of innovative and active enterprises is a multifaceted phenomenon that permeates all aspects of life. One of the important component systems of the security environment for the functioning of innovative and innovative enterprises is, of course, the economic security of the state, which is the basis for the formation of the protection of the interests of business entities.

Accordingly, the role of effective management of economic activity is growing both at the state level and at the level of functioning of innovative and active enterprises. One of the most important components of the state's economy is the financial sector, which plays a key role in financing innovative and active enterprises, providing mediation between state management bodies, commercial and non-commercial organizations, the population, and providing other financial services.

Effective and uninterrupted functioning of institutions of the financial sector of the economy ensures the implementation of important interests of the state, commercial enterprises, public organizations and the population. In accordance with this issue, ensuring the economic security of financial institutions in the conditions of martial law becomes highly relevant. In today's business environment, innovations in various areas of the company's activity play a decisive role, because only they can provide long-term competitive advantages over other market participants and contribute to the improvement of one's own reputation.

In general, innovations represent the foundation of innovation security, the provision of which for innovation-active enterprises is one of the meaningful conditions for development and stability in the conditions of martial law, neglecting which leads to the weakening and bankruptcy of innovation-active enterprises. Thus, understanding the need for the formation and provision of innovation security is the key to effective and successful management of innovatively active enterprises, as well as the creation of a high and necessary development potential for further functioning.

The functioning of innovative and active enterprises is characterized by high dynamism and instability, therefore, in the process of enterprise management, the problem of self-survival and ensuring development arises. In today's complex realities, especially in the conditions of war, innovative and active enterprises have the main role in the process of developing financial, personnel, material, and intellectual resources. In countries with a developed economy, special attention is paid to the development of theoretical and applied principles for the development of knowledge-intensive entrepreneurship, the formation of a favorable legal environment for entrepreneurial activity.

Such factors are considered key in ensuring the economic security of the enterprise and act as the main factors in its improvement. Entrepreneurship can be effective only if the latest technologies and inventions are constantly taken into account. On the other hand, issues related to ensuring the direct economic security of innovative and active enterprises are especially relevant in the conditions of martial law.

The concepts of priority areas of science and technology development and their innovative transfer are aimed at the implementation of the most progressive technological innovations in the economy, which in many cases become the basis for changes in the methods of manufacturing products, their renewal and renewal of production means.

In turn, innovative development is inextricably linked with the investment process, since it is impossible to implement innovations without their phased financial support. The

economic security of enterprises is gaining more and more relevance in the dynamically developing global space, since innovative and active enterprises have to function in conditions of uncertain and unstable environment.

The increasing influx of imported goods significantly complicates the stability of the competitive positions of enterprises. The difficulties of wartime are manifested in the reduction of both production volumes and quality characteristics of the offered products. The technology of domestic production, the technical level of capital equipment, as a rule, is much lower than in industrially developed countries. But even if it is quite efficient to modernize production, create new technologies, it will be possible to justify these costs only through the production and sale of competitive products or services that are in demand among consumers.

Analysis of recent research and publications. Issues of innovative security of the enterprise were considered and studied in various works by many scientists, in particular: J. Schumpeter, P. Drucker, I. Ansoff, J. Robinson, and E. Chamberlin, K. Wagner. But the issue of distinguishing the constituent subsystems of innovative security of the enterprise in the conditions of martial law remains unexplained aspects. In addition, the essence of the process of ensuring innovative safety of the enterprise remains a debatable area.

The purpose of the article is to determine the main components of the innovative security of the enterprise and to form a model of its provision in the conditions of martial law.

Research results. As of September 1, 2022, 798 kindergartens, 1,492 secondary, vocational, and higher education institutions, 934 medical institutions, 388 enterprises, 511 administrative buildings, 19 airports and 2 ports, 77 religious and 715 cultural institutions were damaged, destroyed, or captured in Ukraine. buildings

Indirect losses of industries amount to 129.7 billion dollars. The minimum needs for the restoration of industries are approaching 200 billion dollars. This assessment does not take into account the general needs for the recovery of the economy, additional needs for the modernization of assets that have not suffered damage and destruction. According to the estimates of the Government of Ukraine, taking into account these categories, the total need for financing the recovery is 750 billion dollars. The negative realities of today are: changes in the structure of material production, the destruction of the basic branches of the economy; disruption of economic ties; loss of markets for raw materials, labor, resource base; violation of the legal mechanism of taxation, etc[1].

The largest share in this amount is the loss of the housing fund. As a result of hostilities, 131.3 thousand residential buildings were destroyed and/or damaged for 47.8 billion dollars. In second place are infrastructure losses, which continue to grow and as of August 22, 2022 amount to \$35.1 billion, as a result of hostilities, 311 bridges and overpasses, 24.8 thousand km of roads were damaged or destroyed. According to experts, the damages caused to enterprises and industry are up to 9.5 billion dollars, in the field of education - up to 3.9 billion dollars, and in transport - up to 3 billion dollars, besides, they are constantly growing due to the increase in the number of damaged and destroyed objects.

As a result of the war, Ukrainians have already lost more than 188,000 passenger cars, the total amount of damages from which is 1.7 billion dollars[2]. The amount of direct damage to the infrastructure of Ukraine as of September 1. in 2022 increased to

113.5 billion dollars and this is only documented with the help of video or photo materials obtained within the framework of the project «Russia will pay», organized by the KSE Institute Kyiv School of Economics with the support of the Ministries of Economy, on the reintegration of the temporarily occupied territories of Ukraine, the infrastructure of Ukraine and the Office Losses of the President of Ukraine[3].

According to the estimates of national and international expert institutes, in 2022, the loss of Ukraine's GDP as a result of the military aggression of the Russian Federation may amount to 30–50% [4]. The result of this is a decrease in the level of revenues of the state and local budgets with a simultaneous increase in expenditures, primarily on defense. Six months after the full-scale invasion of the Russian aggressor into Ukraine, damage to the environment in the amount of UAH 395 billion was caused.

As a result of the military invasion, there was a significant impact on the country's logistics. On the example of Kyiv, there is already a decrease in product variety in key retail chains. Taking into account the problems, it is possible to identify the following key problems for the economy of Ukraine in the conditions of martial law:

- there is a sea blockade;
- railway traffic was stopped in the territory of hostilities;
- air traffic is stopped;
- highways in 2022 will be overloaded with refugees to the west;
- the problem of crossing checkpoints remains relevant.
- the possibility of creating products and services has decreased due to a lack of human and material (physical) resources;
- a decrease in demand in the regions of hostilities and the territories adjacent to them due to the outflow of the population;
- physical impossibility of conducting business due to hostilities;
- inability to sell products for export due to logistical problems.

Despite the extremely difficult operating conditions during the martial law, the business of Ukraine continues to function and develop. Thus, since the full-scale invasion of the Russian Federation into Ukraine, almost 7,800 new business entities have been registered, of which 1,020 are individuals and more than 6,776 are legal entities. For example, in the construction industry, as of July 1, from the beginning of 2022, 86 new business entities of legal entities [5] and 88 business entities of natural persons [6] were registered.

The growing role of the economic security of enterprises is due to the practical necessity of using management principles that would ensure the ability of the business entity through the implementation of a situational approach to its effective adaptation to military conditions. At the first stages of the formation of the terminology, the concept of economic security was often identified with the protection of innovative enterprises from such economic crimes as unfair competition, robbery, fraud, industrial and commercial espionage.

Over time, the concept of economic security gained a much wider meaning, and today the economic security of a business entity is understood as its state in which, thanks to countering the negative impact of external and internal threats and dangers, its stable and maximally effective functioning and high potential in the future are ensured. Security

in the economic context implies sustainable development, which is achieved through the effective use of all types of resources [9].

Innovative enterprises are especially vulnerable to military aggression. Innovation as a term appeared in J. Schumpeter's «Theory of Economic Development» and was considered as the driving force behind the formation of P. Drucker's «Business and Innovation» and I. Ansoff's «strategic management». Innovations are classified according to four main groups: needs and reasons, degree of novelty, scope of application, scale of application - which makes it possible to comprehensively consider innovations in their combination with investment indicators.

Let's consider the classification of innovations depending on the content of innovation processes at innovatively active enterprises:

1. The level of novelty of the product.
 - 1.1. Radical implementation of products, inventions, patents.
 - 1.2. Ordinary «know-how», innovative proposals.
2. The stage of the product's life cycle at which the innovation is introduced.
 - 2.1. Research and development of goods and services.
 - 2.2. Production of goods and services.
 - 2.3. Service and after-sales service.
3. Scope of application of the innovative product.
 - 3.1. Technological applications of the innovative product.
 - 3.2. Manufacturing features of innovative product application.
 - 3.3. Economic innovations at the enterprise.
 - 3.4. Commercial areas of application.
 - 3.5. Social areas of product application.
 - 3.6. In the field of management.
- The measure of product and service novelty.
 - 4.1. New innovations in the world.
 - 4.2. New innovations in the country.
 - 4.3. New innovations in the industry.
 - 4.4. New innovations in the company.
5. The rate of implementation of innovative processes at the enterprise.
 - 5.1. Fast innovation processes.
 - 5.2. Slowed innovation processes.
 - 5.3. Innovative processes with constant growth.
 - 5.4. Uniform innovation processes.
 - 5.5. Leap-like innovative processes.
6. The type of effect obtained as a result of the introduction of innovations.
 - 6.1. Economic effect of the introduction of innovations.
 - 6.2. Social effect of the introduction of innovations.
 - 6.3. Ecological effect of the introduction of innovations.
 - 6.4. Інтегральний ефект від впровадження інновацій

Залежно від конкретної мети інвестора розрізняють такі типи інновацій:

товарна інновація проявляється у введення нового продукту;

— технологічна інновація це введення нового методу виробництва;

— ринкова інновація базується на створення нового ринку товарів чи послуг;

— маркетингова інновація це освоєння нового джерела постачання сировини або напівфабрикатів;

— управлінська інновація це реорганізація структури управління;

— соціальна інновація це упровадження заходів з покращення життя населення.

6.4. Integral effect of the introduction of innovations

Depending on the specific goal of the investor, the following types of innovation are distinguished:

— product innovation is manifested in the introduction of a new product;

— technological innovation is the introduction of a new production method;

— market innovation is based on the creation of a new market for goods or services;

— marketing innovation is the development of a new source of supply of raw materials or semi-finished products;

— management innovation is the reorganization of the management structure;

— social innovation is the implementation of measures to improve the life of the population.

The main directions of innovation management in Ukraine are recommended in the group of standards of DSTU CEN/TS 16555 Management of innovations, which are effective from 01.01.2020. This is a national implementation of relevant international standards in the IDT format, which complements the standards of management systems of groups ISO 9001, ISO 45001, ISO/IEC 27001, GDPR.

Innovation process according to DSTU CEN/TS 16555-1:2019.

The diagram of the movement of the product from the innovation to the innovative result is shown in fig. 1.

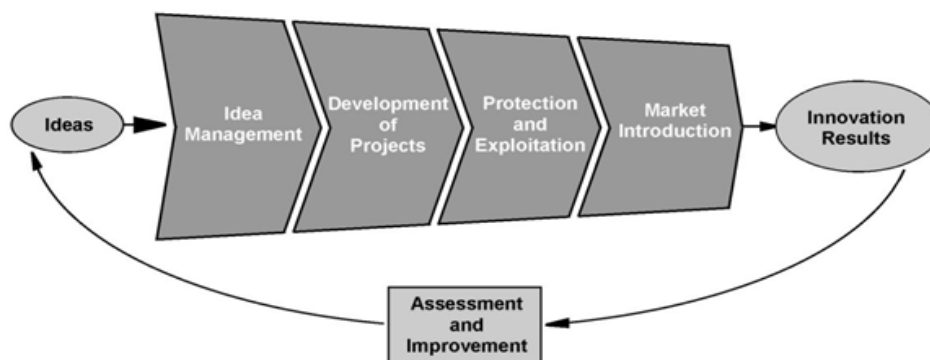


Fig. 1. Scheme of product movement from innovation to innovative result

*Formed on the basis of [11].

The innovative strategy of the research and production enterprise implements activity planning in the conditions of innovative changes, analysis of resource innovations, expected results, and business risks. The cyclicity of the innovation process is related to the life cycle of the innovative product (general issues of life cycle management are regulated by the ISO 9004 standard). The list of Ukrainian technical regulations adopted as part of the obligations under the Agreement on the Association of Ukraine with the EU.

Strategic management is formed on the organization of driving forces for efficient and effective management of the life cycle of innovations. The majority of innovative solutions are formed in the scientific and technological divisions of the enterprise. But at the same time, it is the production sphere that usually implements a certain serial production of products. In turn, the production of products and their introduction into circulation in Ukraine must be carried out in accordance with the relevant technical regulations, which are similar in meaning to EU directives.

Thus, the products that should enter the market of Ukraine must have certificates of compliance with the current technical regulations. A product that is mass-produced in Ukraine must undergo a product type conformity certification procedure and usually a production conformity certification. Conformity of the product to certain technical regulations can only be declared on the one hand, but in order to obtain a type certificate, it is necessary to form and carry out a program of inspections and tests for compliance with certain groups of standards that are defined in technical regulations, to obtain appropriate test protocols, and already according to their totality it can be received certificate. Testing takes a lot of time.

The formation of an innovative enterprise management structure is quite successfully



illustrated in Andreas Riel House of Innovation fig. 2.

Fig. 2. House of Innovations

*Formed on the basis of [11-15].

Conformity of the product to certain technical regulations can only be declared on the one hand, but in order to obtain a type certificate, it is necessary to form and carry out a program of inspections and tests for compliance with certain groups of standards that are defined in technical regulations, to obtain appropriate test protocols, and already according to their totality it can be received certificate. Testing takes a lot of time.

Formally, even the separation of testing procedures with the same product samples requires additional coordination, because objectively, the identity of the samples can be finally declared only after the certification of the production of the same type of product. In practice, production certification for similar types of products is not performed as separate certification measures, but for significantly different types of products, it takes a little more time. Therefore, in connection with passing the certification procedures, the entry of a new type of product to the market is delayed.

It may seem that technical regulations are some kind of brake on innovative activity, but they are not only a bureaucratic process - they are designed to protect the end consumer from the appearance of low-quality and dangerous products on the market. But all the same, one period is needed from the idea to the implementation into a sample, and to the introduction into circulation - an additional one. If we return to innovations, one of the main formats of innovative activity is the introduction of a new product into circulation.

From the moment a new certified product is released on the market, the manufacturing company can usually freely release a new product without significant competition, that is, take advantage of imperfect competition according to J. Robinson, or monopolistic competition according to E. Chamberlin. The case of monopolistic competition was considered quite deeply by J. Schumpeter and determined that such a dominant position in technological industries can bring excess income only for a limited time, even in conditions of preservation of the actual monopoly on the product, as an example he cited the effect of an imaginary eternal patent, and proved that the rate of profit should gradually decrease regardless of the market situation.

In the same aspect, J. Schumpeter considered as natural such a set of actions of the producer, which is aimed at preserving its monopoly status on the market.

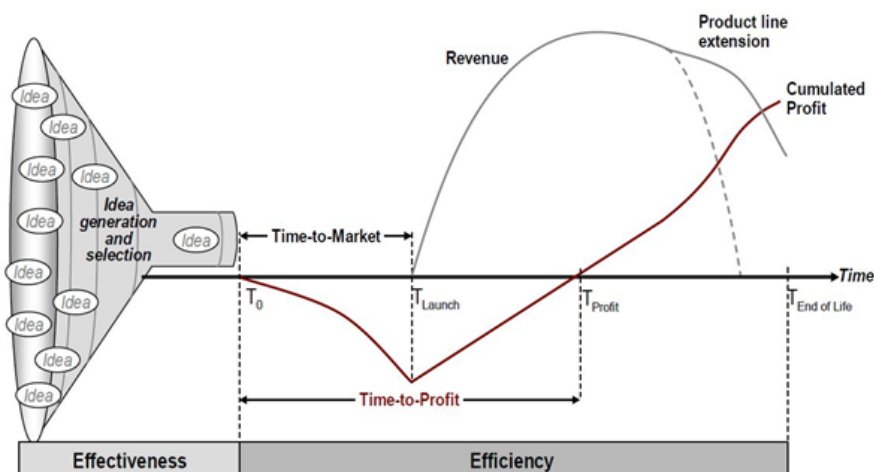


Fig. 3. Time frame of product development

*Formed on the basis of [13-18].

Returning to the moment of release of a new product on the market, it should be noted that a new product can find its consumer only if a potential consumer becomes aware of this product. Accordingly, for a more complete implementation of the strategy of capturing the market, information support measures for implementation - authorized leaks, advertising, etc. - should begin a little earlier than the start of sales. But at the same time, potential competitors learn about a new product earlier.

That is, it is a certain group of risks that must be evaluated in the strategic management of the enterprise and/or in investment activities. As for innovations in the science-intensive field of activity of a research and production enterprise, among the results of work it is possible to single out design and technological documentation, certain test samples and mock-ups of various levels, and ideas, know-how, patents, technologies, as well as algorithms and software as innovative product.

That is, conditionally distinguishing the production-technological component and the intellectual product, these results can be evaluated both by costs and by potential value within the methods of further use. In fact, it is the main produced intellectual property of the enterprise. In general, management recommendations in this area are set out in the current DSTU standard CEN/TS 16555-4:2019. Management of innovations. Part 4. Management of intellectual property (CEN/TS 16555-4:2014, IDT). In particular, for quality management of intellectual property, the enterprise must:

- solve problems of potential intellectual property protection in all units of the enterprise;
- use special methods of managing intellectual property to support the business strategy of the enterprise, special methods of protection;
- to ensure the protection of new technologies.

Regarding interaction with other areas of the enterprise, intellectual property management should involve all existing functional units of the enterprise, as well as specific participants in the process, whose contribution mostly depends on the size of the enterprise, for example:

- scientific research works: innovation, technical analysis, competitive analysis, detection of counterfeits, technological intelligence, tracking of promising third-party technologies to boost business development, legal analysis, including patent purity analysis;
- marketing: development of business plans taking into account profit and market position, market information, growth factors, macro trends, detection of counterfeits, selection of trademarks, development of products and offered services.

But in the special section «2 Normative links» it is indicated «missing». If we consider the main standard of this group - DSTU CEN/TS 16555-1:2019 Innovation management. Part 1. Innovation management system (CEN/TS 16555-1:2013, IDT), - the scheme illustrating the innovation process directly indicates one of the basic stages «Protection and use of results». But the developers of the standard form the protection criteria quite characteristically.

First, recommendations for the protection of ideas are defined - the idea management process should provide «means of protection of new ideas and the rights of their authors before the start of distribution of these ideas at enterprises for their systematic protection, when the potential of intellectual capital is large and needs protection.»

Secondly, regarding the further implementation of ideas in innovative projects and the protection of project results, the standard declares that «The protection and use of the results of innovative activities is carried out in the most appropriate way in each specific case in accordance with approved procedures and agreements, if any.»

Thirdly, with regard to the management of intellectual property, the standard emphasizes the need to fix the objects of intellectual property in the innovation process, to prove the understanding of the intellectual property itself and to protect the intellectual property of the personnel, and emphasizes the need for the process of ensuring the safety of innovations and managing the risks that related to the intellectual property of third parties. Fourth, the standard mentions the use of «technological intelligence», but only in terms of the method of studying open information - a kind of analysis of competitors' achievements.

Thus, it can be concluded that the standards of this group rather superficially consider the issue of information protection (they do not even give a reference), and also almost do not touch on the issue of strategic planning methods of the information management stage of an innovative product from the point of view of assessing the potential profit at the most favorable market status of «monopoly competition» (as noted above, the general need is outlined as a recommendation for the formation of business plans, but the most profitable stage and related methods are not highlighted).

Also, there are practically no recommendations for forecasting estimated service life and total cost estimation methods, for example, «life cycle costing» (LCC - Life Cycle Costing, WLC - Whole Life Costing), «total cost of ownership» (TOC - Total Cost of Ownership) for innovative products. Such methods allow you to objectively assess the value of the product and make strategic calculations of own costs and necessary resources in the long term.

At the same time, modern realities make it possible to increase the volume of production of the product in a short period of time due to the placement of orders for contract production. Contract manufacturing is interesting in that the customer does not need to invest in appropriate equipment, production premises, organization of energy resources, training of personnel to obtain the necessary competencies in terms of organizing a large-scale production process. At the same time, the investment attractiveness of innovative projects increases due to speed and transparency regarding costs as investment risks.

Management in the field of safety of an innovative product is performed not only at the stage of bringing the product to the market, but also should be carried out during the projected time of the product's competitiveness. In addition, there are not only separate innovative products, including products of the same group with differentiated properties, but also interconnected heterogeneous groups of products that are part of the so-called ecosystems.

Historically, the term «security» began to be used since 1190 and characterized the calm state of mind of a person who considered himself protected from any danger. F. List (1841) is considered the founder of the scientific analysis of economic security problems. According to his definition, each stage of a country's economic development corresponds to special economic interests, according to which the economies of «strong»

advanced countries are interested in free trade, while «weak» countries need a policy of «protectionism» and protection of their own industry.

Economic security is a state of the economy that ensures sufficiently high and stable economic growth; effective satisfaction of economic needs; state control over the movement and use of national resources; protection of the country's economic interests at the national and international levels, a component of national security, its foundation and material basis. The object of economic security is the economic system as a whole, as well as its constituent elements: natural wealth, productive and non-productive funds, real estate, financial resources, human resources, economic structures, family, person.

Four elements can be distinguished in the technological structure of innovative technologies: resources, energy carriers and energy; manufacturing industries; investment industries; branches of production of final products and production infrastructure. There are three types of innovative and active strategies: resource-export strategy, i.e. sale of resources; science-intensive export strategy, export of science-intensive products to the world market; resource and innovation strategy, support of long technological chains.

As domestic and foreign experience shows, stimulation of creativity, development and implementation of innovations in all spheres of the economy, support of entrepreneurship working on innovative principles, and the formation of an innovative society in general are of great importance for the innovative development of the country. For Ukraine, the dominant means in this should be the means aimed at reducing the migration of intellectual capital and increasing the competence of personnel, in particular, top managers in the field of innovation.

It is necessary to use the innovative potential of the state in order to develop innovative solutions based on the results of scientific research in natural, technical, social and humanitarian areas. For this, first of all, it is necessary to realize the irreplaceability of innovative development in order to increase the level of technological development of the national economy, as a consequence of the irreplaceable condition of strengthening its security and competitiveness.

Innovative development of products in ecosystems is usually iterative in nature, and with the success of strategic architectural system solutions, ecosystems themselves can be considered as created markets, and innovations lead to perfect competition in these markets. That is, within the ecosystem, in the presence of certain types of products, similar products are created over time, but with differentiated quality characteristics, and these are not always more developed products - quite often, somewhat simpler similar products appear, but at the same time cheaper. And such trends occur not only in the process of competition between manufacturers.

It has become a common phenomenon for individual large manufacturers to release entire lines of identical products with slightly different functionality and characteristics at the same time, and these products are intended for different price subcategories - this behavior not only reduces the costs of promoting brands and individual sub-brands, but also for market expansion when it is created artificial competition in the market and artificial «monopoly competition». Over time, the release of the next product lines is announced, and with their actual appearance on the market, manufacturers sharply reduce the prices of previous lines.

Expected possible competitors in such a case face an intensified price competition. Thus, it can be concluded that periods of «monopoly competition» in large innovative firms are meticulously planned in advance and these terms are artificially limited. At the same time, for products that are aimed at the mass consumer, the actual life cycle term is artificially limited. For example, a limitation of the product support period is used, after which the manufacturer can limit not only, for example, firmware updates, but also the release of spare parts.

Lifecycle limitation is also done at a strategic level within ecosystems from top to bottom by releasing new revisions of core products. Conversely, it is normal practice to release software or computers and electronic components with extended life cycle (LTS - Long Time Support) and all other versions separately. Moreover, the cost of supporting such versions with long-term support is mostly actually redistributed between the members of the communities that organize the ecosystem and through the majority of the members to the end users.

When the ecosystem is monopolized by a certain producer, such costs are mostly compensated by consumers and producers of compatible products. There is quite often some competition between similar ecosystems, including by borrowing successful ideas and implementations with their further implementation in their product groups. Direct copying of the product is also observed quite often among enterprises. Counterfeit products are also found within ecosystems.

But in addition to the issues of patent purity and the facts of unfair use of someone else's intellectual property, it can be noted that competition between the prototype and analogs appears precisely after the release of analogs. Thus, maintaining the position of monopolistic competition in the market is in most cases the priority goal of the innovative manufacturer, but it is temporary and the most vulnerable in terms of economic and informational security.

From the economic side of resource planning, an innovative project should ensure the return of costs and the beginning of profit in the expected period before the release of a similar product from competitors, and possibly after, but taking into account the decrease in economic efficiency.

Accordingly, during strategic planning, it is necessary to estimate time, depending on the complexity of the prototype in terms of the possibility of copying and the resources of competitors, which they can spend on development. In terms of information security, in addition to the protection of open intellectual property, patents, licenses, special attention should be paid to the prevention of leaks of ideas, solutions, know-how, documentation, technologies, software in general, and separately, until a certain time, which is determined during business planning, key features of the product.

But it can rather be attributed to individual recommendations for individual actions and measures. Strategic management, especially at innovative research and production enterprises, in addition to the organization of the research and production process itself, should include measures to implement and use complex management systems. And these are not only the systems necessary for the certification of products and production, the basis for which is the quality management system. In addition to the economic management system, it is related to the risk management system and the information security system.

Taking into account that innovative activity at the enterprise is a creative and mostly collective process, and as the complexity of products increases, the list of necessary competencies increases, quite open project management systems are often used. From the point of view of strategic management, choosing a certain Agile project management system.

The formation of a new or adapted one, as well as the introduction of additional subsystems or the introduction of certain changes, is not only a matter of managing the project or projects itself, but is also closely related to methods and measures within the framework of risk management and information security systems. So, in modern realities, outsourcing and remote work are quite often used, mobile communication, various software for organizing collaborative work via the Internet are used, cloud data storage, and virtual offices are also used.

The software is provided under the SaaS Software as a Service model. This significantly increases the risk of information leaks. In addition to all kinds of non-disclosure regulations, there are several aspects of the organizational and technical plan that affect the very choice of methods and means of ensuring the information security of the enterprise and the project. The implementation of information security management systems, first of all according to the current standards of the ISO 27000 DSTU group, is an urgent need, but the approach should be with a certain strengthening in terms of limiting the spread of information about an innovative product from top to bottom. In the conditions of an open project management process, it is important for participants to understand the goals of the project.

But in the strategic management of the formation of project goals within the framework of the research and production process, the differentiation of the executors' competencies should be taken into account in the context of a certain limitation of information about the project in general. The programmer should not receive more information about the design of the device than he needs to set the task, similarly the guided programmer should receive the task from the host not as a complete project programming task, but a task for his set of actions with a certain limited awareness of the overall goals of the project.

With such planning, the presence of employees with broad competencies becomes an implicit risk. On the one hand, the presence of universal employees increases the mobility of competencies within the enterprise and the project, on the other hand, the full disclosure of the potential of such employees is more characteristic in the complex implementation of projects of low complexity and a scientific component, as well as in the very formation of ideas within the framework of the innovation process at the enterprise.

But in strategic management, it is important to be able to assess the real competencies of employees, and to ensure the management of their specializations, job duties and/or roles during the implementation of specific projects - both for a more rational use of employees' competencies and for management in terms of information security of projects.

According to the selected components of innovative security, the following types of risks can be distinguished:

1. Organizational components of innovative safety, that is, unqualified management is a bad social and psychological climate in the team; inefficient system of motivating

employees involved in the process of innovative activity; making wrong decisions; errors in the planning and design of innovative projects, cost overruns.

2. Personnel is manifested in the insufficient level of personnel qualification and the absence of specialists in the management of innovative activities; personnel turnover; resistance to changes on the part of employees; the inability of the company's workers to implement the work provided for by the innovation project; inability of employees to master new equipment and technologies.

3. Technological consists in the rapid reproduction of the achievements of the innovator enterprise by competitors or their development of a more effective innovation; an increase in current costs compared to previous estimates; compared to previous estimates, the technology adaptation period is increased; errors in the use of equipment and technology.

4. Resource problems are manifested in the lack of material, technical, human and financial resources; disruptions in the supply of raw materials and materials; irrational use of resources.

5. The product may fail to fulfill the technological tasks set before it by the innovative product; consumer rejection of an innovative product; poorly organized inventory management system.

In the conditions of martial law, the greatest risk for the financial and economic security of innovative and active enterprises is the impossibility or limited possibilities of doing business as a result of active hostilities.

A large number of enterprises remained in the temporarily occupied territory, while others were forced to move their facilities to other regions of Ukraine or abroad, for example, the field of consulting services.

A separate problem was the objective need to introduce downtime at the enterprise. The conducted analysis shows that a large part of the male staff of the private business sector was mobilized or voluntarily joined the military service, a large percentage of women went abroad with their children.

As we can see, the process of managing innovation security of innovatively active enterprises is aimed at creating and implementing a strategy that will ensure the development of the enterprise's innovative potential. Its formation is based on the study of the state of innovation security and the identification of risks associated with the implementation of innovation activity. The very process of implementing the strategy is accompanied by the adjustment of its provisions depending on the results of the company's activities.

In addition, it should be noted that the process of managing innovative security of innovatively active enterprises is continuous in nature, which involves a certain algorithm of actions. According to it, if an innovatively active enterprise, based on the results obtained, was able to provide itself with a sufficient level of innovative security, it begins to develop.

The term «economic security» began to be actively researched in the 1950s, when competition intensified in leading industrial countries and between military-political blocs. At that time, the concept of «economic security» meant the protection of know-how, intellectual property, scientific and technical information and other secrets of organizations

mainly from industrial espionage. In parallel with the development of civilization, there is a change in ideas about the meaning of the term «economic security».

We consider the mass outflow of highly intelligent personnel from abroad to be the main problem in the field of ensuring personnel security of the enterprise. We cannot ignore the fact that some of the forced migrants will not intend to return to Ukraine even after the establishment of a stable security situation. The state, as well as individual representatives of business and corporations, should develop programs for the reintegration of forcibly displaced workers, their motivation to return to Ukraine. If the state declares such intentions and programs as part of the presented plan for the recovery of Ukraine, then business representatives often transfer this responsibility to the state.

However, currently in Ukraine, the process of moving workers, mainly women with children or parents with many children, as well as the mobilization of conscripted workers, has affected every innovative and active enterprise. Therefore, the development of a program of reintegration measures should rely on the authorized person of each individual innovatively active enterprise at the local level.

In order to ensure intellectual and personnel security, innovatively active enterprises must legalize their activities, ensure the existence of employment contracts or other contracts that illuminate interaction with experts who are not employees, make the necessary tax deductions, take measures to protect their intellectual property by performing the necessary registration actions, signing the necessary contracts to recognize works as official.

In addition, the enterprise must have sufficient resources to pay guaranteed compensation to employees, as well as provide other guarantees of social protection provided by the current labor law or contract. In order to implement the latter direction, it is important to ensure synergy between intellectual, personnel and financial and economic security of the enterprise. The main features of ensuring the economic security of economic entities in the conditions of martial law include:

- the implementation of a well-founded personnel policy of innovatively active enterprises, both in the context of ensuring the physical security of personnel, and in relation to the optimization of the structure of its quantitative and qualitative composition, the involvement of remote forms of labor activity;
- analysis of the assortment policy of innovatively active enterprises, its optimization for the benefit of the categories of goods and services most in demand by consumers;
- organization of adaptive logistics, comprehensive audit of the existing system of provision and supply of innovative enterprises, formation of backup plans in case of unforeseen circumstances;
- improvement of the system of administration of innovatively active enterprises by the enterprise, which includes not only the change of adopted management approaches, but also the gradual digitalization of enterprise management processes;
- ensuring the integration of risk management into the organization's business processes;
- scenario modeling of the organization of the full functioning of innovative and active enterprises in the event of the destruction of the constituent elements of the production infrastructure;

- analysis of the prospects for the relocation of innovative and active enterprises, drawing up a reasonable plan for the implementation of these measures in the event of the territorial approach of active hostilities to the location of the enterprise.

Summarizing the results of the research presented above, it can be stated that ensuring an effective security policy of an innovatively active enterprise requires the mobilization of the enterprise's management potential in order to ensure high reactive and adaptive properties of the system, the release of existing security reserves and the wide application of risk management approaches and scenario modeling within the framework development and implementation of security strategies for the operation of the enterprise.

In the conditions of martial law and active hostilities on the territory of Ukraine, the security and defense policy of the state is definitely at the fore, on which the corporate security of any enterprise that does business in Ukraine directly depends.

Ukrainian business faced a number of new challenges - the need to ensure the physical safety of employees, to ensure the preservation and relocation of the company's property or facilities to safer regions, to ensure remote or remote work for employees who have gone abroad. A serious challenge was the mass emigration of women workers abroad and the conscription of conscript workers.

The main principles, the implementation of which in the enterprise security system will increase its effectiveness, are:

1) systematicity — the creation of such a security system that would ensure the protection of the enterprise, its property, personnel, information, various spheres of activity from dangers and threats, force majeure circumstances. All employees of the enterprise must participate in ensuring the security of the enterprise. The organizational form of the integrated use of forces and means should become a program to ensure the security of the enterprise;

2) timeliness — identifying various destructive factors, taking measures to prevent their harmful effects and damage to the enterprise;

3) continuity - the security system must be built so that it operates continuously, protecting the interests of the enterprise in conditions of risk;

4) planning — organization in the functioning of the security system. Activities to ensure security are organized on the basis of a single plan, defined in a comprehensive program and specific plans for separate directions and subtypes of security.

The main elements of the enterprise security system include:

- 1) protection of commercial secrets and confidential information;
- 2) computer security;
- 3) internal security;
- 4) safety of buildings and structures;
- 5) physical security;
- 6) technical safety;
- 7) communication security;
- 8) safety of transportation of goods and people;
- 9) environmental safety;
- 10) competitive intelligence.

The methodology of building a system of economic security of an enterprise covers the following stages:

- study of the specifics of the enterprise's business, the segment it occupies on the market, the staff list, as well as getting to know the staff;
- analysis of external and internal threats to the economic security of the enterprise and study of information about crisis situations, their causes and ways of resolution;
- audit of available means of ensuring security and analysis of their compliance with identified threats;
- modeling of a new system of economic security of the enterprise: development of a plan to eliminate deficiencies identified during the audit; preparation of proposals for improvement of the economic security system;
- creation of a security service at the enterprise, if it did not exist, or a security system based on it, determination of the mechanisms for its provision and development of the organizational structure of the system management,
- calculation of all types of necessary resources; planning monthly expenses for ensuring the functioning of the economic security system;
- management approval of the model of the new system and the budget for its maintenance;
- formation of a new system of economic security;
- assessment of the effectiveness of the formed system, as well as its improvement.

Conclusions. The problem of ensuring a sufficient level of economic security and creating favorable conditions for the innovative development of small business enterprises today requires an adequate and timely solution and is extremely urgent. The article analyzes the essence and main definitions of economic security. The works of domestic and foreign researchers on the outlined issues are studied, and their understanding of economic and innovative security is given.

The author's definition of innovative security of the enterprise is formulated, which means such a level of development of its innovative capacities and potential that allows to achieve a state of protection from internal and external economic threats in the conditions of military aggression. The main functional components of economic security at the management level of a modern enterprise are highlighted.

Three groups of risks threatening innovative safety are singled out. Attention is drawn to the main problems of ensuring the economic security of innovative development. The factors of innovative development affecting the economic security of the enterprise in the conditions of competitive struggle have been formed. Three main functions of innovation in the context of activation of the processes of formation of economic security of the enterprise by means of innovative development are defined.

In the conditions of war, economic security plays the main role as a factor of economic development, and the innovative activity of the enterprise acquires. The article reflects the role of innovations in ensuring the competitiveness and economic security of the enterprise. Special attention is paid to the impact of innovations on the competitive position of the enterprise. A conclusion was made about the need to create favorable conditions for the innovative development of enterprises in the conditions of war. Considered and analyzed factors affecting the state of innovative activity of the enterprise. The conditions for the development of the innovative potential of the

enterprise are determined and the economic mechanism for increasing its innovative activity is proposed.

Therefore, the innovative component acts as one of the important subsystems of the economic security of the enterprise, which significantly affects the formation of the image of the business entity and its potential. Innovative safety consists of the following functional subsystems: intellectual-innovative and production-innovative. In turn, the intellectual-innovative component includes organizational and personnel subsystems, and the production-innovative component includes technological, resource and product subsystems.

According to the essence of the elements of innovative security of the enterprise, possible groups of risks accompanying the process of managing innovative security were presented. Taking into account the variability of the external and internal environment, the riskiness of innovative activities, the need to increase the level of competitiveness, a model of the management of innovative security of the enterprise was developed, which provides for the phase of its formation and further support.

Therefore, most authors agree that the economic security of the enterprise is a certain state of the management system, which is also aimed at mobilizing all the corporate resources available at the enterprise in order to protect the enterprise from unwanted influences in the present and future time for the most effective use of these resources. That is, the system is capable of self-organization and self-realization, maintaining balance and stability while minimizing threats.

Economic security of the enterprise is a state of protection of the enterprise from unwanted influences, both external and internal, with the maximum effective use of the available resources of the enterprise's potential. The innovative development of the enterprise is an effective response of the enterprise to the emerging threats of loss of market share, constant pressure from competitors, the emergence of new technologies, reduction of the life cycle of goods, legislative restrictions and changes in the market situation.

In this version, innovative development is a means of using new opportunities, ideas, resources to preserve or gain a new competitive advantage. In the long term, the enterprise has no other choice but to conduct innovative development, which is an effective source of long-term success, and therefore the economic security of the enterprise. Effective innovative activity allows to form.

The primary task for the innovatively active enterprises of the enterprise is the stable and step-by-step development of innovative activity at all levels, within all structural units. This direction will contribute to the effective growth of innovative and active enterprises and will create the necessary prerequisites for development.

The introduction of innovations and overcoming the challenges of wartime, which are faced by innovative and active enterprises in the process of their development, leads to the improvement of the material and technical base, diversification of products, satisfaction of consumer needs, conquest of new markets, increase in profitability and material support of employees, formation of technological independence, which as a result, it leads to an increase in the profitability and attractiveness of the organization for investors who are ready to finance this particular business.

1. Rosiia zaplatyt: proekt KSE Institute spilno z Ofisom Prezidenta Ukrainy, inisterstvom ekonomiky [Russia will pay: the KSE Institute project jointly with the Office of the President of Ukraine, the Ministry of Economy] . Avail -able at : <https://kse.ua/ua/russia-will-pay/> (last accessed 2022/08/26). (in Ukrainian);
2. KSE Institute (analitichnyi tsentr pry Kyivskii shkoli ekonomiky [KSE Institute (analytical center at the Kyiv School of Economics)]. Available at: <https://kse.ua/ua/about-the-school/news/kse-spilno-z-ministerstvom-ekonomiki-ta-ofisom-prezidenta-zapuskaysayt-dlya-zboru-danih-pro-zbitki-naneseni-ukrayini-u-viyni/> (last accessed 2022/08/26). (in Ukrainian);
3. *Korobtsova D.V.* (2022) Pravove zabezpechennia finansovoi bezpeky derzhavy v umovakh voiennoho stanu [Legal provision of the financial security of the state in conditions of martial law]. Analitichno-porivnialne pravoznavstvo – Analytical and comparative jurisprudence. Available at: <http://journal-app.uzhnu.edu.ua/article/view/261779/258188> (last accessed 2022/08/26). (in Ukrainian);
4. Proekt Planu vidnovlennia Ukrainy [Draft Plan for the Recovery of Ukraine] / atsionalna rada z vidnovlennia Ukrainy vid naslidkiv viiny – National Council for the Reconstruction of Ukraine after the Consequences of the War. Available at: <https://www.kmu.gov.ua/storage/app/sites/1/recoveryrada/ua/functioning-of-the-financial-system.pdf> (last accessed 2022/08/26). (in Ukrainian);
5. Kil'kist zareiestrovanykh fizychnykh osib-pidpriemstiv za vydamy ekonomichnoi diialnosti na 01 lypnia 2022 roku [Number of registered natural persons-entrepreneurs by types of economic activity as of July 1, 2022] / Derzhavna sluzhba statystyky Ukrainy State Statistics Service of Ukraine. Available at: https://ukrstat.gov.ua/edrpoi/ukr/EDRPU_2022/fop_kved/arh_kzf_kved_22.htm (last accessed 2022/08/26). (in Ukrainian);
6. Kil'kist zareiestrovanykh yurydychnykh osib za vydamy ekonomichnoi diialnosti na 01 lypnia 2022 roku [Number of registered legal entities by types of economic activity as of July 1, 2022] / Derzhavna sluzhba statystyky Ukrainy – State Statistics Service of Ukraine. : https://ukrstat.gov.ua/edrpoi/ukr/EDRPU_2022/kved/arh_kved_22.htm (last accessed 2022/08/26). (in Ukrainian);
7. *Vergun A.M. & Strizhko K.V.* (2015). Suchasni pidkhody do otsinky rivnia finansovoi bezpeky pidpriemstva [Modern approaches to assessing the level of financial security of an enterprise]. Effective economy, No. 6. URL: <http://www.economy.nayka.com.ua/?op=1&z=4142>. [in Ukrainian];
8. *Чайкіна, А.* Особливості інтеграції ризик-менеджменту в систему управління підприємством. Економіка та суспільство. 2022. № 39. URL: <https://www.economyandsociety.in.ua/index.php/journal/article/view/1337> (дата звернення: 09.11.2022);
9. *Тульчинська С. О., Солосіч О. С.* Концептуальні засади забезпечення економічної безпеки підприємництва в умовах воєнного стану. Науковий погляд: економіка та управління, 2022. № 3 (79). С. 97–102.
10. Крутов В. В. Становлення та розвиток недержавної системи безпеки підприємства / В. В. Крутов. – К. : Фенікс, 2008. – 423 с.;
11. ДСТУ CEN/TS 16555-1:2019 Державні стандарти України «Управління інноваціями»;
12. ДСТУ ISO/IEC/IEEE 16326:2015 Розроблення систем та програмного забезпечення. Процеси життєвого циклу. Керування проектами (ISO/IEC/IEEE 16326:2009, IDT);
13. ДСТУ ISO 21500:2022 (ISO 21500:2021, IDT) «Управління проектами, програмами та портфелями — Контекст та концепції»;
14. ДСТУ ISO 21502:2022 (ISO 21502:2020, IDT) «Управління проектами, програмами та портфелями — Настанови щодо управління проектами»;
15. ДСТУ ISO 21505:2022 (ISO 21505:2017, IDT) «Управління проектами, програмами та портфелями — Настанови щодо врядування»;
16. ДСТУ ISO 21508:2022 (ISO 21508:2018, IDT) «Управління здобутою цінністю в управлінні проектами та програмами»;
17. ДСТУ ISO 21511:2022 (ISO 21511:2018, IDT) «Ієрархічні структури робіт для управління проектами та програмами»;
18. Закон України “Про технічні регламенти та оцінку відповідності” від 15.01.2015 № 124 - VIII <https://zakon.rada.gov.ua/laws/show/124-19#Text> <https://www.me.gov.ua/Documents/Download?id=84de50b5-ca95-4913-9d1b-20f4ad74bfaf>;
19. Наказ від 18.12.2019 № 434 Про прийняття національних стандартів <https://zakon.rada.gov.ua/laws/show/124-19#Text>