https://doi.org/10.33271/nvngu/2025-4/217

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SUSTAINABLE DEVELOPMENT MANAGEMENT: BASIC PRINCIPLES AND TOOLS OF INFLUENCE

Purpose. Assessing the impact of war on sustainable development management (SDM); identifying adjustments to management principles and tools required by martial law (SDM); developing approaches and organizational forms of business processes to achieve enterprise viability as the main condition for sustainability during war.

Methodology. The method of dialectical cognition allowed us to rethink the concept of "sustainable development" (SD) in wartime and to propose its interpretation, to point out the need to review priorities in achieving SD goals. The method of scientific analysis allowed introducing adjustments to the BANI approach and to indicate that during large-scale hostilities, enterprises should be considered as open non-equilibrium systems and apply a new approach to finding a compromise in the structure of "man – society – nature". The method of analysis and synthesis made it possible to emphasize the importance for sustainable development not only of first-order factors, but also of the reverse impact of second-order factors. Using the content analysis method, the features of sustainable development management during ML (martial law) are identified.

Findings. The interpretation of the concept of SD in wartime is proposed. It is indicated that war changes priorities in achieving SDM goals, which requires a compromise approach and interpretation of these goals at the enterprise management level. Management must achieve a rational balance between defined goals, practical needs and available resources to ensure them. The principles, universal tools, components of SDM are indicated and the corrections that war makes to their list are indicated. The features of SDM during war are indicated. Adjustments to the conceptual BANI approach are proposed.

Originality. The approach to cycles and subcycles of viability in production and business processes is proposed as a promising one for acquiring sustainability of enterprises in times of crisis and war. A project-oriented approach is proposed as the most suitable organizational form for this.

Practical value. The recommendations provided regarding cycles and subcycles of viability, selection of tools from the SMART matrix, and the BANI approach will allow the use of SDM methods during wartime.

Keywords: *management, sustainable development, strategy, sustainability, principles, tools, social partnership*

Introduction. Sustainable development is becoming the main business concept in the activities of manufacturing companies around the world. This is facilitated by the fact that consumers and investors, when choosing a supplier or entity for investment, increasingly prefer companies that implement sustainable development management. Therefore, when entering foreign markets, Ukrainian enterprises also turned to the concept of sustainable development.

This required certain additional costs and resources, reassessment of both the short- and long-term prospects of their production activities. But the most difficult task was to coordinate the task of maximizing the net results of the enterprise, which Ukrainian management uses as the main criteria for effective activity and development guidelines, even for the purpose of achieving the social and environmental components of the Sustainable Development Goals. This, accordingly, requires a certain change in thinking when forming the tasks of sustainable development of the enterprise.

The war significantly complicated the implementation of the concept of sustainable development. Even the main premise of this concept – the need to ensure stable production during martial law is a difficult problem. At the same time, in wartime, the sustainability of enterprise development becomes not only a corporate or social task, but also a matter of national security, since taxes of economic entities are the main source of replenishment of the state budget, and their products or services meet the needs of the domestic market. The importance of sustainable development of Ukrainian enterprises is constantly growing as dangers escalate.

To survive, Ukrainian enterprises need to stably produce goods and services that have sales, while satisfying the interests of all parties in implementing the Sustainable Development Goals. Achieving such multifaceted goals in harsh conditions requires certain compromises. First of all, this requires the enterprise management to review not only priorities in achieving the Sustainable Development Goals, but even change the interpretation of these goals.

If for countries in peacetime, the main goal of implementing sustainable development management is environmental problems, which is also stated in international documents, then for Ukrainian companies the goal involves neutralization of military risks or adaptation to direct and indirect threats of war [1]. The implementation of social and environmental tasks, as components of sustainable development, is not excluded in wartime, but acquires new forms, contents, and forms new goals of corporate management.

The conditions of martial law do not deny the principles of sustainable development, but require their adjustment in accordance with new factors of external influence, form new features of management, and lead to a new interpretation of the basic principles that are the basis of sustainable development management, supplementing rather than canceling them.

Sustainable development management is able to ensure the proper level of efficiency in managing production and business processes of an enterprise even in wartime. But the uncertainty of external factors leads to situational or "event" management, which reduces management efficiency.

Therefore, in order to achieve the proper level of enterprise management in wartime, it becomes important to rethink the concepts, practices, and notions of sustainable development.

Literature review. Sustainable development management is being closely studied by the scientific community. Scientists point out that since the concept of "sustainable development" is complex and influenced by a wide range of factors, it can have different interpretations in different fields of activity and therefore has a wide range of definitions, although traditionally this concept is based on achieving economic-social-ecological balance [2]. However, as many scientists point out, the use of a Venn diagram to summarize this balance, according to which components are defined by circles and management effectiveness by the intersection of these circles, is an overly simplified representation of sustainable development management [3]. At the same time, the article by Moutinho, et al. indicates that the main task of management is to find a compromise between sustainability, sustainable development and management practice [1].

The complexity of the issue, according to Paul, et al. [4], also indicates that there is still a lack of research that reasonably links the tools, principles and driving mechanisms of sustainable development with the effectiveness of management practices for strategic management of enterprises.

Silva, et al. [5] using the example of the mining industry in Norway indicate that the principles and tools of corporate management of sustainable development are to some extent determined by the industry affiliation of enterprises and their geographical location. Mining enterprises in Norway are a systemic factor in providing local populations with work for remote areas, and on the other hand, mining activities have a decisive impact on the ecology of these locations [5]. Therefore, as scientists indicate, the management of the mining industry of the EU countries is faced with the dilemma of choosing environmental priorities or obtaining economic and social results for their enterprises [6].

The variability of sustainable development goals in the management of enterprises in different conditions is also indicated in the study by Carmagnac, et al. [7].

Sustainable management methods as the main tool for solving not only social and environmental problems in the context of corporate governance but also for combating institutional instability are indicated in the article by Bocken, et al. [8]. Since the definition of "unsustainable management" given in the article by Bocken, et al. [8] is extended not only to environmental and social goals of activity, but also to economic goals; in conditions of war this provides an opportunity to include in the definition of sustainability also the effects of military actions as the main factor that forms economic threats for the enterprise during this period.

The use of sustainable development management provides the enterprise during a crisis with a number of advantages: an increase in the level of manageability of business processes; increased market opportunities; efficient use of resource potential [9]. The need for management to use unconventional, non-standard thinking for this is indicated in the article by Fritz, et al. [10].

Over the past thirty years, the concept of sustainable development management in conditions of crisis has undergone rapid evolution. Thus, the conceptual approach developed by analysts of the US armed forces in the implementation of sustainable development management – VUCA (abbreviation of volatility, uncertainty, complexity, ambiguity) using the antithesis method was later transformed into SPOD (abbreviation of steady, predictable, ordinary, definite). The evolution of the SPOD approach in conditions of large-scale crises led to the introduction of the BANI concept (abbreviation of brittle, anxious, nonlinear, incomprehensible) [11].

At the same time, the experience gained during the Russian-Ukrainian war proved that the BANI conceptual approach requires not only a revision of established approaches to management and decision-making, but also changes in management in circumstances that require a prompt and effective response to dynamic risks and unpredictable threats.

As Ukrainian researchers note, war requires a revision of sustainable development goals, pushing environmental goals to the background and prioritizing social and economic goals [12]. The war also leads to the need for management transformation during this period [13]. Certain directions of this transformation are proposed in the article by Bilous, et al. [14]. At the same time, Kopchak, et al. [13] indicate that there is no single approach to the success of sustainable development management for all enterprises.

The article by Bolkvadze [15] indicates that the impact of war risks and significant instability, which were not taken into account when developing traditional theoretical methods of sustainable development, complicates the practical implementation of management measures and, accordingly, leads to the need to revise these methods and practices.

The need to review the methods and practices of sustainable development management in conditions of war and crisis, the need to transform management during this period, the need to rethink even the concepts of sustainable development in unstable conditions with uncertain influencing factors, as indicated in scientific works, makes the research, the results of which are presented in the article, relevant.

The purpose of the article. The purpose of the article is to assess the impact of war on sustainable development management, to determine adjustments to the principles and tools of management required by martial law, to develop approaches and organizational forms of business processes to achieve enterprise viability as the main condition for sustainability during war.

The objectives of the article are: to review the interpretation of the concept of "sustainable development" in war conditions; to substantiate the need to revise priorities in achieving sustainable development goals; to identify the features and components of sustainable development management in this period.

Methods. The general scientific method of dialectical cognition allowed us to point out the need to rethink the concept of "sustainable development" in war conditions and to propose its interpretation. Using this method, it was also established that war conditions require a revision of priorities in achieving sustainable development goals and, even, a revision of the interpretation of these goals. The method of scientific analysis allowed us to make adjustments to the conceptual approach of BANI and to indicate that during large-scale hostilities, enterprises should be considered as open non-equilibrium systems and apply a new approach to finding a compromise in the structure of "man – society – nature". The method of analysis and synthesis made it possible to indicate the importance for sustainable development of not only first-order factors, but also the importance of the reverse influence of second-order factors. Using this method, an effective tool for acquiring sustainability in war conditions was proposed – the formation of cycles and subcycles of viability, in particular under project-oriented management. Using the method of content analysis, the peculiarities of sustainable development management during martial law were revealed.

Results. According to Dos Santos' theses, the concept of "sustainable development" may have different interpretations in different spheres of activity and will have its own characteristics in the management practice of different enterprises [2]. This issue is significantly exacerbated by the dynamic effects of war on the activities of enterprises.

In conditions of martial law, there is a need to even rethink the concept of "sustainable development" also due to the fact that "development" may not be supported, for example, by the growth of profits or other financial and economic indicators of the enterprise's activities, in particular, if the management chooses a survival strategy.

Therefore, in contrast to the established views on "sustainability" as a state of the system, certain characteristics of which must be improved in the process of "sustainable development", it is proposed to interpret "sustainability" as a goal that permanently changes its characteristics, that is, a moving goal in enterprise management.

In war conditions, the concept of "sustainability" should acquire signs of resilience, which, due to its synergistic qualities, more likely corresponds to the definition of "stress resistance" or "viability", that is, it is the antithesis of the concept of "fragility", which underlies the BANI conceptual approach. At the same time, the property of "viability" can be interpreted as an integral condition of sustainability during war or crisis.

In this case, the definition of "development" is proposed to be interpreted not as a process of increasing qualitative or quantitative systemic characteristics, but as a process of transformation, adaptation to the challenges of the external environment.

Therefore, in crisis conditions, the concept of "sustainable development" is proposed to be interpreted as an adaptive capacity to ensure the implementation of production and business processes and maintain the potential for growth.

In view of the above, the result of sustainable development management in a severe crisis should primarily be the avoidance of economic, social and environmental risks, taking into account the fact that each of the above components can form both a new level of threats and a new level of security for the other. Therefore, sustainable development management measures should be aimed at counteracting negative impacts and promoting positive impacts.

This, in particular, leads to the need to make adjustments to the methods for planning sustainable development in accordance with the BANI conceptual approach [11].

For example, the interpretation of non-linearity, which is the basis of the BANI approach, should be reconsidered. Thus, even a minor management action in conditions of instability can lead to radical negative consequences, even the need to revise the goals of enterprise activities. But, unlike the BANI interpretation of this instability, each risk has its reasons, and sustainable development management should take into account their consequences and assess their impact on the activities of the enterprise.

Also, in wartime, the management proposal based on the BANI approach – not to be afraid to make mistakes – becomes extremely questionable, since the consequences of mistakes by leading managers, even in minor issues, can have catastrophic consequences for the enterprise. This thesis should be replaced by the thesis of reasonable risk when making decisions by management. Therefore, during martial law, there is a need to constantly review development guidelines, prepare various scenarios of management actions for increasing risks, the factors of which are uncertain, beyond a certain, previously reasonably defined limit.

During war, the planning time horizon is reduced, which increases fragility, anxiety, non-linearity, incomprehensibility, according to the BANI conceptual approach, and which management must also take into account to ensure sustainable development.

At the same time, the BANI thesis about "incomprehensibility" is not about information overload, as it is commonly interpreted. Given the multifactorial nature of war impacts, uncertainty becomes an everyday reality of management activities, so the BANI's thesis about "unintelligibility" should be interpreted as an inability to master the flows of big data for the prompt adoption of rational management decisions.

Sustainable development management is an alternative to traditional "command and control" management, as it meets the requirements of proactivity, flexibility and resilience. These requirements are extremely important in conditions of uncertainty of external influences and significant threats of war.

At the same time, according to the survey of owners and managers of enterprises, which are presented in the figure below, their assessment of the main risks during martial law varies significantly over time [16]. This indicates the dynamic variability of threats – changes in risk factor assessments in some periods reach more than 200 % and, at the same time, the rate of change in these assessments is an indicator of the level of management adaptation to threats of significant force.

The Figure shows significant differentiation in the management's assessment of these factors. Thus, the importance of the factor "increase in input prices" decreases in the period 05.22–12.24 with a small average rate of 0.03, therefore, this factor decreases by only 30 % during the specified period. After the peak values of the factor "increase in input prices" in the *3rd* quarter of 2022, its change is relatively stable, unlike the factor "lack of labor". At the same time, the management solves problems with electricity and water supply in a fairly short time. Thus, the management was able to solve the peak threat 10.22–01.23 by 05.23.

This indicates that enterprises adapt more quickly to direct threats.

In general, this indicates an insufficient level of threat assessment and a relatively small spread of sustainable development approaches in enterprise management, which reduces the adaptive capacity of enterprises.

The scientific community believes that the prerequisite for effective management is the coordination of management principles.

The general principles of sustainable development management can be formulated as follows:

1. To achieve the economic component of sustainability, management must organize the production of goods/services on a permanent basis and to this end ensure the manageability of management at all levels.

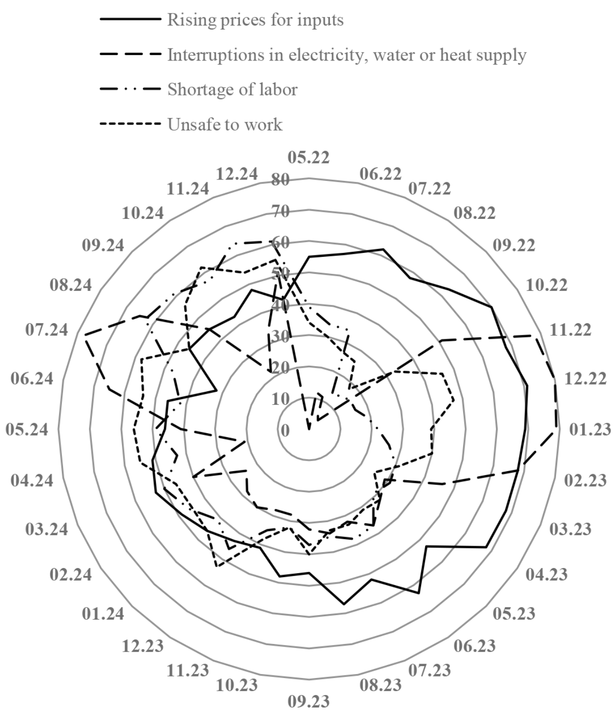

Fig. Dynamics of assessment of the importance of the impact of external threats in war conditions by owners and management of enterprises

2. To achieve the environmental component of sustainability, management must ensure the stability of the resource base, avoid the depletion of non-renewable resources and the environment, and preserve the natural environment in the geographical location of the enterprise.

3. To achieve the social component of sustainability, management must promote social stability in the state, ensure support for the social sphere at all levels – from the enterprise to the national level.

At the same time, the conditions of war make their own adjustments and additions to the above principles. For example, it is worth considering activities aimed at promoting adaptation to the threats of war of all levels of society – from the enterprise team to society as a whole, the formation of social partnership, as a social component of sustainable development management,

This adaptation is able to form feedback loops, cycles and subcycles of viability that enhance the sustainability of the enterprise. For example, the adaptation of the team to the threats of war enhances its stress resistance, mobilizes it to perform production tasks, which, accordingly, contributes to the sustainable development of the enterprise [17].

Social partnership measures with personnel, employee care as a component of sustainable development management increase employee motivation, loyalty to the company, which in times of crisis contributes to the viability of the enterprise [18]. For example, in times of relocation of the enterprise, it is difficult for employees and their families to manage their own funds for settling in a new place. Therefore, measures of financial and organizational support by management during this period allow preserving the personnel potential of the enterprise, which, accordingly, effectively contributes to sustainable production activities.

Measures of social support of society with the joint action of the management of significant groups of economic entities, not only form a system of social partnership at the national level, but also, conversely, lead to a reduction in the impact of some macroeconomic risks (for example, the risk of mass emigration), which is positive for the economic indicators of the enterprise.

In assessing the effectiveness of sustainable development management, scientific literature usually distinguishes first-order factors that directly contribute to the sustainable development of companies, and second-order factors that contribute to increasing sustainability at the macro level – the market, society and the environment [19].

The approach to separating first- and second-order factors ignores both the issue of the reverse positive impact of second-order factors on the sustainability of the company's development, and the issue of the formation of sustainable cycles of factors' influence on sustainability indicators. The application of the approach of cycles and subcycles of viability in production and business processes is promising for the management of sustainable development of enterprises in conditions of crisis and war. The indicated cycles of viability and their components – subcycles of viability are a practical implementation of the reverse positive impact on the sustainability of enterprises.

Also, in war conditions, with significant dynamics of changes in the action and importance of second-order factors, the assessment of their impact on the activities of companies as a deferred one should be revised [19]. This is evidenced, in particular, by significant fluctuations in the estimates of the "labor shortage" factor over relatively short periods of time (Figure).

The adoption of sustainable development principles at the corporate level forms the boundaries of the application of the market mechanism by management. At the same time, management is faced with the task of ensuring a rational balance between the defined goals of sustainable development, practical needs and available resources to ensure them. This requires adjusting the goals and strategies of the enterprise, which necessitates the need for a structural restructuring of the enterprise's management. During the structural restructuring of management, it should be borne in mind that the principles of sustainable development will be more effectively implemented in practice if they are implemented in established working procedures, primarily in management procedures.

The above-mentioned and the conditions of martial law form the features of sustainable development management during this period:

- with the vulnerability of tangible assets, the importance of proper management of the enterprise's intangible assets increases [20];
- there is a need in the new conditions to introduce new organizational forms, a new management structure in a short time;
- there is a need for a radical reorganization of work processes, and, as a result, an operational solution to new problems, in particular, the need to asynchronize remote communication of employees;
- the importance of operational management of failures and gaps in production processes is increasing, since each failure can have significant unpredictable consequences for the viability of the enterprise;
- under unstable external conditions, the requirements for stabilizing relationships with consumers and suppliers are increasing;
- the need for non-standard nonlinear approaches to management at all levels is increasing [21];
- the importance of the human component in the organizational structure is increasing, the importance of initiative, adaptability, psychological stability, etc. is increasing;
- the importance of leadership qualities of managers, the ability to promptly make non-standard decisions, the ability to take responsibility for key issues, the ability to change the management style is increasing;
- the importance of ensuring staff motivation increases, which requires new management methods, in particular, an individual approach to each employee;
- there is a requirement to make management decisions, even on extremely important issues, in real time;
- with the dynamics of external challenges and in the event of defragmentation of the organizational system, the requirements for the levels of coordination and coherence of actions of all divisions of the enterprise increase, the importance of teamwork and the formation of effective communication links in the team increases.

Threats of war force management to use the following tools to acquire a sustainable nature of activity:

- cloud resources at all levels of management for reliable data storage and stability and security of production and business processes;
- big data analytics for prompt and relevant selection of effective business solutions;
- permanent strengthening of cybersecurity tools;
- remote work.

The toolkit of cloud resources directly affects the level of sustainability of the enterprise. Therefore, this toolkit should be applied in all production and business processes: management of finances, resources, supply chains, relations with suppliers and customers, human resources, all forms of reporting, control of compliance of management decisions with legal norms, internal environmental control, control of time spent on tasks by employees with remote access, etc.

Martial law conditions lead to an increase in the unpredictability of the main factors influencing the sustainable development of economic entities, the risks of their resource supply, therefore they require a new level of management adaptation to dynamic threats, the level of which can reach unacceptable values in a short time [22]. This requires flexibility in the choice of management tools, operational reorganization of production processes, changes in planning horizons and even revision of strategic activity plans, changes in goals.

Risk management in this case requires not only preventive development of decision trees but also their permanent updating to increase the level of efficiency in neutralizing the effects of threats.

From the point of view of operational activities, sustainable development management must foresee not only changes in demand in the markets for its products, but also the dynamic nature of changes in the market behavior of the main groups of consumers, breaks in its pace in the event of a sharp change in external circumstances.

Even the predominant orientation towards foreign markets, which is considered by a number of scientists to be the main management tool in wartime, is not an absolute guarantee of sustainable development of the enterprise, since fixed assets, counterparties, logistics routes, etc. may be under threat, which complicates the stability of supplies to foreign markets [22].

The instability of the enterprise's position on foreign markets is also caused by the increase in costs for increasing customs tariffs, the volume of insurance premiums under Lloyd's requirements for sea transportation, etc., which leads to a decrease in the level of competitiveness of Ukrainian goods.

Under such conditions, even the recommendations of scientists on the diversification of sales markets cannot guarantee a reliable level of stability for all economic entities [22].

In conditions of dynamic change in threats, the risk management strategy needs to be revised, which should be aimed not so much at avoiding risks as at neutralizing the consequences of their impact and at measures to adapt production and business processes to threats.

It is also advisable to consider risk not only as a factor of negative impact, but also as a generator of new opportunities, for example, eliminating competitors, forming grounds for introducing a new line of goods or services, etc. Thus, the diversified (given the geographical location, economic condition, level of vulnerability of companies) impact of risks on economic entities can contribute to obtaining leadership positions in local markets even for those companies that in previous periods of time were inferior in terms of competitiveness to other enterprises [17]. More effective sustainable development management can contribute to this.

Thus, if for countries in peacetime, sustainable development management requires a transition to other products (services), production and business processes [23], then, in wartime, paradoxically, ensuring sustainable development of enterprises requires constant dynamic changes in all areas of enterprise activity, since in the case of dynamic changes in threats of a significant scale, this is required by the condition of adaptability of enterprises.

With a significant number of factors of multifaceted influence, in conditions of uncertainty, significant differences in risks by location of enterprises, their industry affiliation, the method for finding a compromise between goals for achieving sustainable development will be individual for each enterprise.

The definition of specific tools by sustainable development management should comply with the principle of rational selection from the SMART matrix (Specific, Measurable, Achievable, Realistic, and Timely).

The components of sustainable development management are determined by specific tasks. Thus, sustainable development management in wartime should integrate approaches, principles and tools: crisis management; operations management; social psychodynamics; taking into account regulatory measures of state institutions; implementation of the principle of legality, so that management activities correspond to the regulatory and legal field, which under martial law is characterized by dynamic changes; resource management, taking into account dynamic changes in the supply of resources; financial management, goal-setting management in changing conditions, achieving the appropriate level of production profitability and Sustainable Development Goals, etc.

This significantly limits, and sometimes even makes impossible, the use of traditional digital tools for sustainable development management, such as PRiSM™ and Business Process Management [1]. This is a consequence not only of the dynamism of external influences, to which traditional digital complexes are not adapted, but also of the fundamental conditions for their use. In particular, the fact that in conditions of powerful dynamic external influences, an individual enterprise cannot be considered as an equilibrium closed or even quasi-open system [24]. This is exactly how an enterprise is considered in a significant number of modern ERP and BPM systems.

During large-scale hostilities in the country, enterprises should be considered as open non-equilibrium systems and new approaches should be applied to finding a compromise in the structural problem of "man – society – nature".

This does not exclude the fact that an effective tool for sustainable development management is the integration of management systems at all levels: quality management (according to DSTU ISO 9001:2015), occupational health and safety (according to DSTU OHSAS 18002:2015), environmental pollution management (according to DSTU ISO 14001:2015), etc. and their implementation into a decision-making support system.

Such a reduction in the "control" of production and business processes, when performers receive an excessive number of signals from different levels of management, which often contradict each other, contributes to the success of sustainable development management, creates the prerequisites for acquiring a positive synergistic effect on the management process. In addition, with the integration of management systems, reporting is streamlined, the number of forms of internal reporting is reduced, that is, the quality of control over the implementation of management decisions is improved.

The tools of sustainable development management include: constant audit of production and business processes to identify strong and weak aspects of the enterprise's activities; analysis of all aspects of competitors' activities, identification of changes in market trends, assessment of consumer sentiment; assessment of all components of one's own resource potential, primarily personnel and all types of assets; optimization of production and business processes. These are universal tools of sustainable development management.

At the same time, the conditions of war and crisis make their own adjustments to this list. Thus, the level of risks due not only to the direct impact of war on the activities of enterprises, but also to the indirect impact of threats, requires constant assessment. For example, changes due to the impact of war in the competitive regional and macro-environment require permanent control.

Approaches to assessing management effectiveness also require revision. Even in peacetime, this was a debatable issue in the scientific community. The traditional use of the net results of the enterprise as the main criterion for effectiveness is not a relevant indicator of sustainable development management. Also, in conditions of survival, the use of such indicators as investment activity ratios, fixed asset growth and even the sales volume change ratio, which is important in peacetime, to assess the effectiveness of sustainability management, raises questions.

At the same time, the dynamic impact of threats increases the value of the current assets turnover ratio.

Use of wage arrears ratios to assess the social component; or the ratio of average wages of the enterprise and the industry; coefficients of personnel stability do not fully allow to assess the social costs of the enterprise in war conditions. Here it is advisable to include such costs as the amount of assistance to employees for maintaining housing in the place of relocation of the enterprise, part of the profit directed to help the military, etc.

The social component of sustainable development in conditions of war of significant intensity can be interpreted as the preservation and acquisition of the company's social capital in such a way that society and stakeholders recognize this as a positive aspect of sustainable development management.

In conditions of limited access to natural resources, destruction of fixed assets of suppliers of natural resources, seizure by the aggressor of territories where their enterprises were located, the relevance of such indicators as the coefficient of nature intensity and the coefficient of resource-saving technologies decreases.

With a decrease in production volumes when management uses a survival strategy, a decrease in the pollution intensity factor is not an indicator of the achievements of sustainable development management.

Excessive level of uncertainty significantly reduces the relevance of not only strategic but also operational planning. New threats with consequences different from traditional risks to which the enterprise has already adapted, devalue even retrospective analysis for forecasting future periods. This reduces the value of long-term projects and deferred benefits. That is, it reduces the continuity of the concept of "sustainable development management". At the same time, the need for proactive management is growing.

The use of an integral indicator by which the main areas of sustainability are assessed is complicated because during martial law, the ratio of indicators of individual areas of sustainability must be revised [25]. This thesis is confirmed by the fact that, given the choice of a survival strategy by management and the expansion of the social component of sustainable development to: protecting employees and their families from the risks of war, assisting personnel during the relocation of the enterprise from the combat zone, providing troops, etc., the social component becomes more significant than the environmental one.

The above allows us to substantiate the thesis that the set of indicators of sustainable development management in wartime is unstable and requires operational adjustments for changes in goals, priorities, internal and external conditions.

Given the requirements of acquiring sustainability during martial law, when the level of relevance of forecasts is significantly reduced, in contrast to crises or force majeure circumstances in peacetime, enterprise management becomes significantly more complicated. In particular, the problem is that management must make decisions promptly in conditions of lack of reliable information about threats to sustainability, intuitively navigate in changing conditions, when each management decision can have significant unpredictable consequences not only for production processes but for the very existence of the enterprise. This necessitates a departure from the principles of "business as usual" or "non-zero-sum game", characteristic of sustainable development management in peacetime and the implementation of the principle of "games with extremely high stakes".

This principle determines the fact that a management decision, even on issues that may seem insignificant, in wartime can lead to far-reaching negative consequences – even to the cessation of production activities by the enterprise or the death of personnel. It also becomes fundamental to increase the efficiency of management decision-making.

In an unstable external environment, an increase in the level of uncertainty in all production and business processes, there is a need to delegate some of the powers to lower levels of management with an unconditional increase in the importance of leadership and individual qualities of the leading management level.

In general, the above should increase the responsibility of each employee not only for his workplace but also for the enterprise as a whole. At the same time, in wartime, priority, primarily in office work, should be given not to the "remote-friendly" principle, but to the "remote first" principle. Although the "remote-friendly" principle provides for remote workplaces, most business processes are carried out at the enterprise [25, 26]. At the same time, the "Remote First" principle reduces the risk of personnel damage in the event of an air attack on the enterprise, has financial advantages, and creates flexibility and adaptability of business processes. The implementation of the "Remote First" principle also imposes specific features regarding the organization of work processes, in particular, due to the need to asynchronize remote communication of employees, since simultaneous communication can have consequences equivalent to a DoS/DDoS attack and therefore requires significantly more expensive means of digital communication.

Dynamic conditions lead to a narrowing of opportunities in the use of rigid hierarchical structures to ensure sustainable development management.

In such conditions, decentralization of management increases adaptive capacity to significant external challenges and contributes to the use of new opportunities in dynamic changes. At the same time, decentralization does not exclude the implementation of the principle of marginality of each production site, each project of the division, each client request.

With decentralization of management, clarity in the organizational structure of the enterprise becomes important. Lack of clarity slows down both the adoption and implementation of management decisions, which does not contribute to sustainable development.

This, in particular, increases the need to manage customer expectations. In case of disruptions in production processes, it is worth increasing communication with customers, informing them of the delay in product deliveries and justifying the reasons for this. Proactive communication with consumers is the key to business sustainability. These and other targeted measures ensure the formation of a good reputation for the company and an increase in the level of trust at all business levels: from the supplier-company to the client-company, which will contribute to sustainability. For example, this will allow one to resolve issues of cash flow more productively, avoiding non-payment of obligations, which reduces the risks of a shortage of circulating financial resources. This is one of the aspects of social partnership in wartime.

An important tool in conditions of significant psychological stress and personal losses of employees is the organization of interaction and the level of communication with personnel. Firstly, it is worth forming such an atmosphere of relationships in the team that would contribute to the restoration of the psychological balance of employees, since this is a guarantee of their proper performance of professional duties, which helps to ensure the sustainability of the enterprise. Secondly, to form such corporate relationships that would contribute to the generation of ideas and increase the initiative of employees.

As one of the possible options for decentralization, a matrix organizational structure of the enterprise can be proposed. This, in particular, is facilitated by the need to disperse the fixed assets of the enterprise to avoid total destruction as a result of missile and bomb attacks.

Project-oriented management meets the conditions of war because it has such properties as: dynamism, suitability for implementation under the influence of uncertain factors and significant risks; the ability to achieve a group of interdependent goals; a high level of coordination. Projects are implemented under strict time constraints, which is important in conditions of significant variability of external factors.

At the same time, project-oriented management can have exceptional advantages as a tool for sustainable development management in projects of cycles and subcycles of viability.

For the effective implementation of projects, the interrelation of the principles underlying the two main components of project management is characteristic: the formation or, if necessary, mobile restructuring of the project management mechanism and the management of the process of its implementation.

The principles of: compliance with the norms of law, efficiency, flexibility, dynamism, purposefulness, mutual coordination, adaptability are the basis of the component of the formation of the project management mechanism.

The principles of cooperation, coordination, holisticity, variability, time constraints, risk, uncertainty of influence factors, achievement of a group of interdependent goals, and continuity are the basis of the practical implementation component of the project.

These principles do not contradict the principles of sustainable development, but complement them.

It is proposed to assess the feasibility and effectiveness of project-oriented management tools for the formation of cycles and subcycles of viability in projects, that is, not only their direct impact on the level of sustainability, but also the reverse impact through social and environmental components.

It would be advisable to combine the matrix organizational structure of the enterprise with the use of project-oriented management.

Conclusions. The conditions of war have indicated the need to rethink the components of the concept of "sustainable development". It is proposed to interpret "sustainability" as a goal that permanently changes its characteristics, and it is indicated that in conditions of war the concept of "sustainability" should acquire signs of resilience, which, due to its synergistic qualities, corresponds to the definition of "stress resistance" or "viability". The definition of "development" is proposed to be interpreted as a process of transformation, adaptation to the challenges of the external environment. Therefore, in crisis conditions, the concept of "sustainable development" is proposed to be interpreted as an adaptive capacity to ensure the implementation of production and business processes and maintain the potential for growth. It is noted that the result of sustainable development management in conditions of severe crisis should primarily be the avoidance of economic, social and environmental danger, taking into account the fact that each of the above components can form both a new level of threats and a new level of security for the other. In view of the above, adjustments to the BANI conceptual approach are proposed.

It is indicated that the conditions of war require a review of priorities in achieving sustainable development goals and even the interpretation of these goals. Therefore, the social component of sustainable development in conditions of war of significant intensity can be interpreted as the preservation and acquisition of the company's social capital in such a way that society and stakeholders recognize this as a positive aspect of sustainable development management.

It is also indicated that with a significant number of factors of multifaceted influence, in conditions of uncertainty, significant differences in risks by location of enterprises, their industry affiliation, the search for a compromise between goals for achieving sustainable development will be individual for each enterprise. Management is faced with the task of ensuring a rational balance between the defined goals of sustainable development, practical needs and available resources to ensure them. This necessitates the need for a structural reorganization of enterprise management.

It is noted that not only direct management actions (first-order factors) are important for the sustainable development of an enterprise, but also the reverse influence of second-order factors, social and environmental activities of enterprise management, which contribute to increasing sustainability at the macro level. Given the above, the use of the approach of cycles and subcycles of viability in production and business processes is promising for the management of sustainable development of enterprises in conditions of crisis and war. A project-oriented approach is proposed as the most suitable organizational form for the application of the approach of cycles and subcycles of viability. It is proposed to assess the feasibility and effectiveness of project-oriented management tools for the formation of cycles and subcycles of viability in projects, that is, not only their direct influence on the level of sustainability, but also the reverse influence through social and environmental components. It is proposed to combine the matrix organizational structure of the enterprise with the use of project-oriented management.

The tools of sustainable development management are indicated and it is noted that the conditions of war and crisis make their adjustments to this list. Thus, the level of risks requires constant assessment not only of the direct impact of war on the activities of enterprises, but also of the indirect impact of threats. In conditions of dynamic change of threats, risk management requires a review, which should be aimed not so much at avoiding risks as at neutralizing the consequences of their impact and at management measures for adapting production and business processes to threats.

The universal tools that are components of sustainable development management are indicated and the adjustments that war makes to their list are specified.

The definition of specific tools by sustainable development management should comply with the principle of rational selection from the SMART matrix.

The variability of influence factors during war reduces the value of long-term projects and deferred benefits. That is, it reduces the continuity of the concept of "sustainable development management". At the same time, the need for proactive management is growing. This leads to a departure from the principles of "business as usual" or "non-zero-sum game" characteristic of sustainable development management in peacetime and the implementation of the principle of "games with very high stakes". This allows substantiating the thesis that the set of indicators of sustainable development management in wartime is unstable and requires operational adjustments for changes in goals, priorities, internal and external conditions.

The features of sustainable development management during martial law are presented.

In further research, the possibility of mathematical formalization of the formation of cycles and subcycles of viability in projects is considered.

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Менеджмент сталого розвитку: основні принципи та інструменти впливу

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Мета. Оцінювання впливу війни на менеджмент сталого розвитку; визначення коректив до принципів і інструментів менеджменту, яких вимагають умови воєнного стану; розроблення підходів та організаційних форм бізнес-процесів для набування життєздатності підприємства як основної умови сталості під час війни.

Методика. Метод діалектичного пізнання дозволив переосмислити поняття «сталий розвиток» в умовах війни й запропонувати його трактування, обґрунтувати потребу перегляду пріоритетів у досягнені цілей сталого розвитку. Метод наукового аналізу дозволив внести корективи до підходу BANI і вказати, що в період масштабних бойових дій підприємства треба розглядати як відкриті нерівноважні системи й застосувати новий підхід до пошуку компромісу у структурі «людина – суспільство – природа». Метод аналізу й синтезу надав

можливість вказати на важливість для сталого розвитку не лише факторів першого порядку, але й зворотного впливу факторів другого порядку. За використання методу контент-аналізу виявлені особливості менеджменту сталого розвитку в період воєнного стану.

Результати. Запропоноване трактування поняття «сталий розвиток» в умовах війни. Вказано, що війна змінює пріоритети у досягнені цілей сталого розвитку, що вимагає компромісного підходу, й трактування цих цілей на рівні менеджменту підприємства. Менеджмент має досягти раціонального балансу між визначеними цілями, практичними потребами та наявними ресурсами. Указані принципи, універсальні інструменти, складові менеджменту сталого розвитку й зазначені корективи, що вносить до їх переліку війна. Указані особливості менеджменту сталого розвитку в період війни. Запропоновані корективи до концептуального підходу BANI.

Наукова новизна. Запропоновано підхід до циклів і субциклів життєздатності у виробничих і бізнес-процесах як перспективний для набування сталості підприємств в умовах кризи й війни. Як найбільш придатну організаційну форму для цього запропоновано проєктно-орієнтований підхід.

Практична значимість. Надані рекомендації щодо циклів і субциклів життєздатності, вибору інструментів із матриці SMART, підходу BANI дозволять використати менеджмент сталого розвитку в період війни.

Ключові слова: *менеджмент, сталий розвиток, стратегія, стійкість, принципи, інструменти, соціальне партнерство*

The manuscript was submitted 07.01.25.