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Duginets Ganna

g.duginets@knute.edu.ua, ORCID ID: 0000-0003-3708-3666

ResearcherID: L-9850-2016

*Doctor of Economics, Professor, Head at the Department of World Economy,
Kyiv National University of Trade and Economics, Kyiv*

Busarieva Tetiana

sutner@ukr.net, ORCID ID: 0000-0003-4928-4772

ResearcherID: A-8603-2018

*Ph.D., Associate Professor,
specialist for ensuring the work of the Supervisory Board of NPC Ukrenergo, Kyiv*

MODERN MODELS OF HYBRID WAR

Abstract. *As a result of large-scale processes and trends that have taken place in recent decades in the context of globalization and the information revolution, forms, methods, means and, accordingly, interpretations of national interests and national security are being more or less noticeably metamorphosed. Against this background, in recent years, the concept of "hybrid wars" has rapidly entered the military-political lexicon. It is not only firmly established in the scientific and journalistic literature, as well as in the media, but is also widely used in official documents determining the behavior of states in the international arena. New concepts and methods of conducting hybrid war are developing very rapidly today, which requires a revision of the classic military methods of forecasting and planning both offensive and defensive strategies. Like any other war, hybrid war is an area of unreliability and uncertainty. The inaccuracy of intelligence and the constant intervention of chance lead to the fact that the parties to the conflict actually face a completely different situation than expected, and this can not but affect the planning or at least the perceptions of the situation that formed the basis of strategic plans. The transformation of hybrid warfare into a new type of interstate confrontation raises the issue of the use of modern tools of support and decision-making as a priority. The use of the hybrid war model for this purpose is increasingly going beyond the purely scientific sphere, making it an effective factor in ensuring the national security of countries. The development of effective hybrid warfare strategies and counter-strategies requires the introduction of new technologies based on the modeling and application of AI. The symbiosis of modern scientific knowledge and approaches allows us to study, predict and plan modern hybrid military conflicts as nonlinear objects operating in conditions of high uncertainty. Model, created for this purpose, should be easily integrated into the political and military decision-making process and, given the complexity of this activity, be integrated. This approach will provide an adequate understanding of the complex, ever-changing phenomena of hybrid warfare and hybrid threats and take them into account in the system of national and global security.*

Key words: hybrid war, hybrid threats, models of hybrid war, new concepts, globalization.

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Дугінець А. В.

g.duginets@knute.edu.ua, ORCID ID: 0000-0003-3708-3666

ResearcherID: L-9850-2016

*доктор економічних наук, професор, завідувач кафедри світової економіки,
Київський національний торговельно-економічний університет, м. Київ*

Бусарєва Т. Г.

sutner@ukr.net, ORCID ID: 0000-0003-4928-4772

ResearcherID: A-8603-2018

*кандидат економічних наук, доцент,
фахівець з забезпечення роботи Наглядової Ради НЕК «Укренерго», м. Київ*

СУЧАСНІ МОДЕЛІ ГІБРИДНОЇ ВІЙНИ

Анотація. В результаті широкомасштабних процесів і тенденцій, що відбуваються в останні десятиліття в умовах глобалізації та інформаційної революції, більш-менш помітним метаморфоз піддаються форми, методи, засоби і, відповідно, трактування національних інтересів і національної безпеки. На цьому тлі в останні роки в військово-політичний лексикон стрімко увійшло поняття «гібридні війни». Воно не тільки міцно утвердилася в науковій і публіцистичній літературі, а також у засобах масової інформації, а й широко використовується в офіційних документах, що визначають поведінку держав на міжнародній арені. Нові концепції і способи ведення гібридної війни сьогодні розвиваються дуже швидко, що вимагає перегляду класичних військових методів прогнозування і планування як наступальних, так і оборонних стратегій. Як і будь-яка інша війна, гібридні війна являє собою область недостовірного і невизначеного. Недостовірність розвідувальної інформації і постійне втручання випадковостей призводять до того, що сторони конфлікту в дійсності стикаються з абсолютно іншим станом речей, ніж очікували, і це не може не відбиватися на плануванні або принаймні на тих уявленнях про обстановку, які лягли в основу стратегічних планів. Перетворення гібридної війни в новий вид міждержавного протистояння висуває в число першочергових проблему використання сучасних інструментальних засобів підтримки і прийняття рішень. Застосування для цієї мети моделі гібридної війни все більш виходить за рамки чисто наукової сфери, перетворюючи її в ефективний фактор забезпечення національної безпеки країн. Для вироблення ефективних стратегій і контрстратегій гібридної війни потрібно впровадження нових технологій, заснованих на моделюванні і застосуванні. Симбіоз сучасних наукових знань і підходів дозволяє вивчати, прогнозувати і планувати сучасні гібридні військові конфлікти як нелінійні об'єкти, що функціонують в умовах високого ступеня невизначеності. Створена для цих цілей модель повинна легко вбудовуватися в процес прийняття політичних і військових рішень і з урахуванням складності даної діяльності носити інтегральний характер. Такий підхід дозволить отримувати адекватне уявлення про складні, постійно змінюються феномени гібридної війни і гібридних загроз і враховувати їх в системі забезпечення національної і глобальної безпеки.

Ключові слова: гібридна війна, гібридні загрози, моделі гібридної війни, нові концепції, глобалізація.

Formulation of the problem. The use of the hybrid warfare model helps to assess the nature and danger of emerging situations, to distinguish transient from hopeless, fatal, dead-ends, to determine the degree of political risk, the direction of the political process, means of resolving the crisis, to coordinate the applied complex of hybrid threats within the framework of a single concept, to reflect the forecasting processes, resource use and strategic planning. It is a tool for symbolically displaying the structure and strategy of managing the processes of preparing and waging (or organizing a rebuff) of a hybrid war by bringing them in line with the meaning and goals of confrontation.

Analysis of recent research and publications. Among scientific researches in the field of knowledge component of competitiveness Ukrainian and foreign scientists have developed a number of theoretical, methodological and methodical approaches to determining the place and role of hybrid warfare and the models of its development it is necessary to mention the following: B. Milner, I. Nonaka and X. Takeuchi, P. Senge, V. Bukovich, K. Viig, D. Ye. O'Leary, D. Snowden, Y. Vovk, M. Martynenko, A. Degtyar and M. Bublik, A. Nalyvayko, N. Butenko, N. Smolinska and I. Hrybyk, S. Leonov and other scientists. At the same time, important to note that

at the beginning of the XXI century, in the time of hybrid wars, the question concerning the specific characteristics and the models of the hybrid war arise.

The purpose of the article. The main aim of the article is to analyze the ways of formation the models of the hybrid war in the globalization area and to verify their main characteristics.

Presenting main material. In the turbulent and characterized by many uncertainties international situation of recent decades, the number, variety and intensity of conflicts are growing, which differ from each other in the composition of the participants, the weapons used, the forms and methods of actions of the troops, and the probable or active adversaries (countries and their coalitions, , relatively independent subjects) have access to modern high-tech means of warfare. They are capable of supporting insurgent movements using guerrilla tactics, waging war in a cyber environment, possessing high-precision long-range weapons, cyber and robotic systems for remote penetration of critical infrastructure. The opportunities for non-state factors to access technologies for creating weapons of mass destruction and their delivery vehicles are expanding. The state loses its monopoly on the use of force.

Globalization not only creates opportunities, but also risks. The volatile pace of change in three

key areas of international economic relations (economic, financial and monetary policy) has proven problematic. Despite the emergence of autonomous growth centers in the global economy, there are still notable differences in the stage of development of individual financial systems. This helps explain why the US dollar is still the dominant reserve currency. So far, we cannot talk about a multipolar system. Rather, it is a more hybrid system in which many countries try to peg their currencies to one or more free floating currencies [1].

The process of transformation of all spheres of social life of people with the simultaneous overcoming of previously existing borders is quite fully described by the philosophical concept of "transgression". This is the effectiveness of open borders and interdependence of the countries of the world; the ability of supranational institutions to cope with an extraordinary situation; the stability of the world financial system and the world economy as a whole in the face of serious problems; the futility of centralized states, socialist regimes and disciplinary methods in solving acute problems and the complete superiority of liberal strategies over them; the total triumph of liberalism as a panacea for solving all problem situations.

These myths have shown their failure in the USA, Italy, France and in many other strongholds of globalization captured by the virus. In conditions of a formidable infection, the sharp closure of society, reliance on internal resources, the adoption of urgent social measures, strong state power and isolation of the sick from the healthy, citizens of the country from foreigners, a decisive barrier to migration, etc. [2].

There is a clear transition from the strategies of linear development of states and the world as a whole to nonlinear strategies, the application of which allows achieving significant results at the expense of steps that were recently considered unpopular. The essential moment of the act. It is precisely the fact that it violates the linearity of the process and leads to the formation of fundamentally new (that is, not determined by the current state of the international community) evolutionary prospects for the development of a new multipolar world in which individual world regions, civilizations, continents will gradually take shape into independent subjects.

In these conditions, a radical shift in the cultural focus of the United States and Europe should be predicted, including ideas about progress based on the self-proclaimed idea of global leadership by the United States or on the salutary postulates of unrestrained technological development that have become dogma in European states. In the new financial, economic, cultural and ideological model of the United States, as well as the EU and NATO, if both alliances are preserved in one form or another, they will be only one of the factors along with others. The United States

itself will clearly not be able to (and probably not want to, if the Trump line finally prevails in Washington) to act as the only global arbiter and acquire a different status, while maintaining its focus on the struggle for spheres of influence and sources of raw materials. The USA and NATO have never been able to propose a unifying project, if not to consider such a "project" a far-fetched Russian threat. A number of transformed globalization processes, previously focused on the United States, are reorienting to China to participate in Beijing's global infrastructure programs: the Belt and Road Initiative and the accompanying Digital Silk Road and 5G Technologies. Russia has yet to have its say in these processes. The resulting vector will lead to permanent changes in the politics and economics of both China and other states, but these changes will not be immediately understood. Analyzing the model of hybrid warfare in the globalization period, it should be emphasized that the use of the hybrid war model helps to assess the nature and danger of emerging situations, distinguish transient from hopeless, fatal, deadlock, determine the degree of political risk, direction of political process, crisis management, coordinate the applied set of hybrid threats (GU) within a single plan, to reflect the processes of forecasting, resource use and strategic planning. It is a tool for the symbolic representation of the structure and strategy of managing the processes of preparation and conduct (or organization of resistance) of hybrid war by bringing them in line with the meaning and objectives of the confrontation. In the general case, a model (from the Latin *modus* – a measure, a sample) – 1) a mental or conditional image, analogous to an object, process or phenomenon, reproducing in symbolic form their typical features; 2) a formalized theory, on the basis of which a number of assumptions can be made; 3) a symbolic image of the structure, type of behavior and patterns of interaction in social processes; 4) a standard for measuring deviations in real processes from the expected ones; 5) in psychology – a role model [3].

In relation to the present study, the hybrid war model should symbolically reflect its structure, types of behavior of opposing parties and patterns of interaction in the social processes of this phenomenon, which is becoming a threatening reality in the XXI century. Conceptually, it serves as a methodological basis for detailing the components of preparation and management of hybrid war, coordination of the complex of hybrid war by time, place and intensity of application. The use of a conceptual model in the development of hybrid war strategy allows to formulate the idea of solving problem situations, to reflect the peculiarities of the use of adaptive control mechanisms in conditions of mobility and uncertainty of the external environment.

The Hybrid War model as a method of systems research should be adequate to this complex

phenomenon and satisfy the following basic requirements: reflect the multidimensional nature of the hybrid war, the operations of which cover the administrative-political, financial-economic and cultural-ideological spheres of the victim state, are carried out in cyberspace and outer space; provide a holistic, multidimensional display of social objects; correspond (be adequate) meaningful models reflecting the originality of the research subject. In our opinion, with the improvement and more active use of models, and also in connection with the increasing difficulties of obtaining new knowledge, modeling as a universal method is becoming increasingly important in the study of hybrid problems. At the same time, the models act as a means of studying conflicts of the 21st century, and are used to solve managerial problems, creating the basis for transforming the object of study in the interests of ensuring national security [4].

It should be borne in mind that the construction of a model that reflects real situations is always carried out with a certain degree of convention, since it cannot cover all aspects of the problems under study and acts only as a tool for concentrating the analyst's efforts on the main essential characteristics. The strength of the models lies in their clarity and ease of operation when analyzing the situation and developing management decisions. When constructing the hybrid war model, special attention is paid to fixing the zones of intersection of interests of acting international actors – centers of power, which should include the United States, NATO, the EU, China, Russia, Iran and some other states and coalitions. The intersection of their economic and military-political interests has a significant and sometimes decisive influence on the strategy of the Civil War, in particular, due to the formation of the situation, which the American expert on military strategy and geopolitics E. Luttwak described as "culmination and mutual circulation". In one of his works, he wrote: "In the dynamic development of a continuous war, the coincidence of victory and defeat can spread beyond the limits of a new balance of forces, reaching the extreme point of complete reciprocity". The phenomenon of interrelation requires the fixation of conflicting (crisis) points in the model by types, groups and levels of hybrid wars and possible adaptation options for their application [5].

In view of the above, it is advisable to develop a hybrid war model in three stages: first, creating a matrix of system components; the second is the development of an algorithm for implementing the hybrid war strategy; the third is the construction of a synchronization model for the use of the hybrid war complex in the hybrid war strategy. The process of constructing a matrix cannot be fully formalized, since the signs of materiality and insignificance for concepts related to hybrid war and hybrid threads,

in a number of cases, do not lend themselves to formal assessment. In general, it includes several system components, each of which is described by the characteristics of the four main dimensions of the model: static, control, dynamic and predictive.

From our point of view, the multidimensionality property of hybrid war should form the basis of the conceptual model of the conflict, which reflects the transformation of quantitative changes into qualitative ones as the strategies, forces and means of modern conflicts develop. The model of hybrid war should reflect the following dimensions of the conflict: the all-encompassing nature of the conflict, which is conducted using military and non-military forms of influence with an emphasis on ideological means and modern models of "controlled chaos"; the war is built on a strategy of attrition, which gives the conflict a protracted, permanent character; the norms of international law defining the concept of "aggression" are inapplicable to a hybrid war; in such a war, the concepts of "front" and "rear" do not exist; a new dimension of war has in relation to the previous status and energy of negation and forms a qualitative basis for the transformation of the conflict, determines the transition from a linear to a nonlinear paradigm of war.

At the beginning of the 21st century, information technologies for influencing the enemy in this type of conflict have reached a new quantitative and qualitative level, which gives information weapons a previously inaccessible spatial scale, special urgency and threatening relevance. The result of the use of information technologies is a radical transformation of all spheres of public life, including military, due to the emergence of new forms of influence on the enemy.

Let us dwell in more detail on the development of the algorithm as an important system component of the hybrid war model, determining the directions of adaptation and directly related to the functions of management and solution development, as well as ensuring the implementation of the scenario by performing a clearly defined sequence. First of all, it is necessary to select the expected events (deterministic, probabilistic, indistinct) that determine the emergence and development of military-political situations in the area of geographical coverage of the model. The adaptability of the model to situations characterizes its ability to reflect a wide range of internal and external perturbations and qualifies such important properties as stability and flexibility.

The stable model of hybrid war allows to prevent uncontrolled development of a situation effectively and to function successfully in the conditions of external influences and internal disturbances. The flexible model of hybrid war in the process of adaptation to political situations changes its characteristics in acceptable time intervals and taking into account the existing regulatory and resource

constraints. The algorithm of the model reflects the interests of international organizations and individual states (centers of power), their goals and objectives. Taking into account resources, forecasted problems and limitations, options for action are developed, for each of which political, economic and military measures are envisaged. The set of such measures forms the strategy of influencing the situation and determines the desired scenario of the situation. A wide range of subjects of hybrid warfare, decentralized models of action management increase the risk of conflicts, which acquire difficult-to-predict features associated with the "fragility" of the borders between peace and war, rear and front, between regular army units and irregular formations. Hybrid warfare operations will take place not only on land, at sea and in the air, but also in cyberspace, space, financial, economic, cultural and ideological areas. In a hybrid war, opponents are destroyed not by external force, although it is not excluded in one form or another (as in Libya and Syria), but by means of "color revolutions", "rebellion" and civil war. External forces use a set of cultural, ideological and socio-economic problems. They attract a pre-grown "fifth column", and the spectrum of its participants is very wide – from radical Islamists and national separatists to liberals and human rights activists. Citizens of one country play off against each other, divide into religious, national, ideological and political groups, incite mutual hatred in them.

Conclusion. A wide range of subjects of hybrid warfare, decentralized models of action management increase the risk of conflicts, which acquire difficult-to-predict features associated with the "fragility" of the borders between peace and war, rear and front, between regular army units and irregular formations. Hybrid warfare operations will take place not only on land, at sea and in the air, but also in cyberspace, space, financial, economic, cultural and ideological areas. In a hybrid war, opponents are destroyed not by external force, although it is not excluded in one form or another (as in Libya and Syria), but by means of "color revolutions", "rebellion" and civil war. External forces use a set of cultural, ideological and socio-economic problems. They attract a pre-grown "fifth column", and the spectrum of its participants is very wide – from radical Islamists and national

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