

## OPERATIONAL THINKING AND ITS APPLICATION IN OPERATIONAL DESIGN

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***Abstract:** Operational thinking is a significant aspect of the military decision-making process, applied by military commanders and their staffs. For a sound resolution of military problems, they are required to think creatively about the application of operational art. The deficiency of operational thinking may not only lead to unwanted risks and unintentional losses in operations; it can also thwart the chances for expected and decisive success. The purpose of the paper is to discuss the very elementary ideas of operational thinking that commanders and operational planners must deal with, to visualize and design feasible military approaches for the conduct of operations. Rather than strict official definitions there are introduced possible content, procedures and guidelines that must be taken into consideration to define and solve complex and ill-structured military problems.*

**Key words:** Operational thinking, operational design, decision-making, operations planning process.

### 1. Introduction

Solving conflicts and crises in contemporary operational environment indicates that military force, as long as activities of other nation's power instruments are insufficient, remains the most decisive, quickest and the most effective element for accomplishing the strategic-political and military objectives, and (though not always) establishing the conditions necessary to achieve desired end state. It is apparent that requirement to manage future crises will remain constant, as more complex world problems will emerge and deepen. The more complex these problems will become, the more varied and flexible capabilities of the armed forces will be required.

The process of operations planning is an important agent for solving miscellaneous complex security problems. At the strategic level it is aimed at achieving political end state and strategic

objectives, set by the NATO, EU or UN political-military authorities. Through the process of operations planning a strategic directive is transferred to the set of integrated military actions (operations) carried out in collaboration with other international governmental and non-governmental organizations to achieve strategic objectives respecting acceptable risk. At the operational level it is essential to determine how the operation should unfold in the framework of the overall operational design. Operational design constitutes several basic ideas about conducting the operations; what military conditions must be created in the area of operation to achieve strategic objectives, which activities are to be arranged in time and space to achieve these conditions and what military capabilities and resources can be used to create such conditions.

Operational design within the whole operations planning process incorporates a

number of military meanings, expressions and tools that help commanders to develop the general idea about how the operation may be conducted. The paper does not address all these meanings in detail, however, some important terms occurring in the article the most often, are described below.

## **2. Defining the terms**

Proper understanding of certain expressions treated in the paper requires their sound clarification. It is not always entirely clear what some terms mean, when used in isolation from the overall context. To “think operationally” is a significant attribute of excellent commanders. Even though not incorporated in official military terms, operational thinking is the core of their operational vision; their ability to anticipate, judge and assess the opponent’s actions and make decisions creatively, correctly and quickly for future employment of own forces.

“Operational design” is the process of iterative understanding and problem framing that supports commanders and staffs in their application of operational art with tools and methodology in hand to conceive and construct viable approaches to operations. [1] Operational design is the process that helps commanders to develop solutions of complicated problems. At the beginning of this process, they must define and then to start solving the problem. When the crisis occurs, commanders need to hold ideas that define the emerging issues and subsequently, in cooperation with other nonmilitary actor, to create functional and comprehensive approach for the sound solution. Operational design is about ability to understand, define and visualize the problem that needs resolution, ability to assess the given possibilities, to anticipate the likely outcomes (successes and failures) and their impacts and to take appropriate and acceptable decisions.

The term "complex" is used in this context to express the involvement of all

instruments (elements) of national power in the operation; military and non-military, to achieve desired end state (D-I-M-E: Diplomatic, Informational, Military, Economic).

The term “end state” expresses the political and/or military situation to be attained at the end of the operation, which indicates that the strategic and operational objectives have been achieved. [2] Achievement of the end state in the operation involves both military and civilian actors.

“Operational design team members” (the team members) are members of the armed forces and other individuals from various nonmilitary departments; their participation in the team is an aspect of full or partial (temporary) working involvement.

“Logical lines of operation” constitute general functional areas of society or the nation (state), divided into different sections that help team members to understand the operational environment and to appropriately focus their efforts to solve problems. Generally, there exist six logical lines of operation considered in the operational design.

## **3. Key factors of operational thinking – the basis of operational design**

Because commanders need to contemplate the necessary interaction between military and civilian actors, the following consideration is a basic explanation of how some aspects of operational thinking assist in the cooperation of military actors with civilian organizations in the process of operational design. Certain key factors form the operational design: the study of the problem, critical discussion, logical lines of operation, whole-spectral studies, understanding the problem, evaluation, learning from operations, and adaptation and tempo. [3] These factors, exploited by the team in a coordinated manner, give operational design its complex character.

### **3.1. Study of the problem**

Sooner than military and civilian actors decide to resolve the problem occurred in the country, the region or an area, they must look for the real roots of the problem. The Operational design process allows team members to study the problematic issues comprehensively; they try to frame and describe them in an understandable manner. The process helps revealing and understanding the nature of the problem, its causes and potential impacts so the final efficient solution may be found. A well-designed concept takes into account all aspects of the controversial issues identified through the problem, thus planners can use instruments of national power in all systems (PMESII-PT: Political, Military, Economic, Social, Infrastructure, Information, Physical Environment, Time) comprehensively, instead of the operation was seen only as independently phased and separate actions. The team members cannot separate just one area or system and study it as a specific problem. It is important that they explore the region or the country in their entirety, continually striving to understand the problem in their best abilities and to describe it in clear and distinct terms. Through discussion – brainstorming e.g., the team members subjectively investigate different areas and issues of the problem in a comprehensive scale. They look at the area of interest with regard to all controversial issues in relation to all essential instruments of nation's power and thus create more effective and more plastic image of the operation.

### **3.2. Critical discussion**

Critical discussion and dialogue is the bearer of operational design. Discussion of the team members is from the beginning of the process (especially during the initial analysis and evaluation of the problem) led by an experienced specialist (mentor) who steers it, covers the necessary staffing and administrative needs, but he neither dictate nor dominate the team in the discussion. The team should have the members

assembled from each of the necessary organization, from the Armed forces and from civilian organizations. It should not be broken down by rank or position held; its ideas should always revolve around the nature of the problem.

When possible, it is appropriate that the team and other planning groups are separate entities, keeping up their own ideas and preventing "unfair treaty" about the "right" design and planning process. Simply told, they should not see each other into the kitchen. However, this is not realistic in all situations. Activities of team members (groups) may overlap in some cases, or one member can be active in both teams because of limited jurisdiction. During the operational design it helps to keep the dialogue open, however, conceptual functions must remain separate from the planning function.

### **3.3. Logical lines of operation**

A comprehensive response to the crisis requires activities to involve all PMESII-PT systems on specific logical lines of operation. Intervening organization must operate on these lines and positively affect as much as possible components of the system in dynamic mode. These lines do not exist in a vacuum, but in the center of other established systems such national, regional, ethnic, cultural or religious systems. Military doctrines currently recognize six basic logical lines of operation, allowing functioning of the nation (alliance or coalition). These include government (governance), basic services, training and use of security forces, information operations, economic development and military operations.

No activities performed on one logical line of operation or the system cannot exist without affecting of other areas. In addition, systems cannot be analyzed and studied independently with the hope to understand their functioning. Rather, the problem must be studied and derived in the overall context in order to obtain a real picture of how the problem

relates to the other systems and the other logical lines of operation.

### **3.4. All-encompassing study**

Operational design process can be seen as developing experiment and its outcome as a solution to be tested. Throughout the process the team members gather information, they gradually understand the problem and diagnose it, engage in discussion, reveal the source of the problem, evaluate the potential success or failure of the future operation and via the constant reassessment they continue in design's gradual "purification". This whole-spectral study (learning) enables the team to work across all logic lines of operation and to create a comprehensive approach. This process is an ongoing process until the moment when the end state is achieved. Depending on confirmation or challenge of hypotheses team members restate and implement solutions through further discussions within the team. In addition, this "purifying" accomplished by the team members may include potential transformation of the operation's milestones or on rare occasion even the end state.

Setting milestones of operation or the end state is not "mission creep", but rather it is its adaptation to the challenges in permanently changing operational environment. Operational design team members must pay particular attention to the fact that solution to achieve the end state happens during adaptation to the surrounding environment. This environment cannot be simply "raped". Complex and coordinated activities operate in systems throughout the whole course of operation - against the enemy, domestic population, environment, and dynamic changes within it. Contrary, systems will adapt depending on how they are affected. Therefore, team members must adapt particular aspects of the operation in accordance with a strategic directive of the superior authority.

### **3.5. Understanding the problem**

When team members study the systems and strive to identify the problem,

they are naturally involved in the learning process. At the beginning of the process they try to understand the problem already from the first available information. Foundations of their initial ideas rise from the initial perceptions of the problem and intents for its solution, based on observation, the available facts and assumptions. In terms of major factors analysis – time, space, and factors of civilian and informational environment, the team members must focus on those aspects on which the tasks and objectives of the operation directly depend. [4]

The analysis should then result in a number of deductions, from which conclusion for operational requirements will be made. The team members collect more information throughout the process to determine and define the problems and decide on which of the systems they must draw attention. This initial understanding "pulls" the team throughout the whole Operational design process and subsequently is being transformed into a cyclic learning (of the own team), as operational design is being outlined into the greater depth and implemented afterwards.

### **3.6. Evaluation**

The evaluation enables subsequent reconstruction of operational design. Evaluation is an activity inextricably linked with operational design; it allows learning and deeper understanding. But it does not mean automatic understanding because it is only a passage to learn and a consequent path to it. The evaluation is continuous learning process through investigation (discovering) of the facts during the operation. Constant evaluation of military and non-military activities in the operation allows team members to determine the success or failure and to implement necessary corrective actions. Once the solution of the problem was implemented, the team members will immediately assess the resulting action to be familiar with and transform (re-design) the operation alternatively. The evaluation confirms the

complex relationship between different stimuli; it examines the relationship of individual actors' activities and how these activities interact with each other.

The evaluation also acts as a harmonizing function that fosters unity of purpose during the operation. The team, throughout the evaluation, can determine success at different levels and via possible modifications of the original operational design may ensure that both military and non-military means continue in collective effort towards the same end state. The evaluation has both horizontal and vertical aspects. This means that the team communicates openly with both superior and subordinate command levels. The team, in addition, maintains the horizontal liaison with other organizations to share and receive information, thus reducing lack of understanding in joint effort.

### **3.7. Lessons learned from operations**

The team members gradually develop the initial understanding of the problem as they learn about the operational successes or failures from already implemented plans. Learning from operational reality is the process of implementing other necessary operational initiatives, such as adding incentives in different systems (their influencing) and/or implementing necessary changes to meet the planned activities. Operational design does not stop, but rather runs throughout the whole period of the operation. [5] During ongoing evaluation the team members monitor success or failure of the operation, and through the process of learning from operational reality they constantly update their own understanding of the problem and transform their vision to steer the course of operations. Team leader of the operational design "adds or subtracts energy" to/from the systems as needed, but always via constant dialogue with all team members.

### **3.8. Adaptation versus tempo of the operation**

Adaptation is a deliberate action of the team to manage Operational design and

to maintain the initiative due to the opponent. When the team sets an aggressive rhythm of activities on specific lines of operations, the opponent is forced to respond to these „offensive” actions. His reaction then necessarily includes the insertion of (in advance) unplanned resources (time, effort, sources) to regulate or adapt to the new situation. If the own rhythm is productive, actions of the enemy, with respect to time will be less offensive. Adaptation is thus directly related to setting and maintaining the tempo.

Own initiative to undertake action is critical for increasing the tempo of operation. Tempo is not mindless practice to be faster than the opponent. Rather, time and speed create tempo only when linked with enemy's tempo. Tempo is rhythm of adaptation and is not limited only to one activity. Instead of one direction, operational designers strive to create tempo across all logical lines of operation, in order to the operation was maintained in complex. The process of operational design is driven by the relentless efforts of all team members for searching initiative through learning, evaluation and implementation of changes in the process. Ability to operate in a faster tempo than the opponent enables to push him back, so he cannot assess what is really happening, or to keep up with own forces.

## **4. Conclusion**

The key factors of operational design require use in a harmonized manner. They are cyclical components of operational thinking and decision making from the very beginning of operational planning process until the end state of operation is achieved. The team members involved in operational design must understand the problem, its roots and collectively perceive the environment that surrounds it. All factors, when used properly, facilitate team work, so it is able to respond to unexpected changes in operational situation as soon as possible and to correctly implement new ideas.

Complex problems require complex inter-agency solution, covering all aspects of related problems. Most of the current doctrines and methods indicate possible solutions, but these usually tend to use particularly military instruments of nation's power which, of course, are not sufficient for solving future challenges that may arise. When a crisis arises, military professionals need to create a collective, dynamic and comprehensive approach in cooperation with other non-military organizations. [6] The Armed forces need to improve and adopt the doctrinal methods for solving complex problems. Equally important is the

necessity to implement new doctrinal terms and definitions, which express new insights into the complexity of current and future operational environment. Operational thinking – thinking about military operations is not an innate attribute of the military commanders. They are key individuals in the chain of command, who are given the authority to organize forces to best accomplish the assigned mission based on operational design. In order to obtain such abilities they must study hard and systematically for the most of their professional career.

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