sciendo International Conference KNOWLEDGE-BASED ORGANIZATION
Vol. XXVI No 1 2020

DETERMING OF THE ARMED FORCES DEMANDS FOR SPECIFIC KINDS OF FACILITIES

Teodora PETROVA, Zhivo PETROV

"Georgi Benkovski" Air Force Academy, Dolna Mitropoliya, Bulgaria
teodorapetrova33@abv.bg, zhpetrov@gmail.com

Abstract: *The adequate financing of the first project's stages, especially the decision making stage for supplying with specific kind of facility or equipment, will lead to a successful fulfilling of all other stages of the project. The procurement process which is directed to supplying of the armed forces necessary needs, includes a selection of the best technical decisions towards the proportion (ratio) between price/quality of the facility and/or the services. Therefore, the final choice of the technical decision should answer to the user demands (who sometimes demands not-approved very high requirements) only to level, at which this action will not be in danger for the project success.*

Keywords: armed forces, facilities, equipment, military planning, effective project management

1. Introduction

The modernization of the defense sector is a matter of critical question, which is important for the Governments of all countries from the Euro Atlantic Community especially in the past fifteen years. Some countries are focusing on the conversion of their armed forces, so to be able to respond better to 21st century security threats. Others develop more ambitious restructuring of the whole defense area and this is really common for the the post-communist countries, which are in times for democratic transformations, and also for the countries which are at the last stage of such transformations [2,5]. All of these countries expect strategic results from the reform of their defence and security sectors and also, they correctly regard the success of these transformations as a factor contributing to their integration into the Euro-Atlantic community, as well as a factor in strengthening their own security and the prosperity of their societies [3].

The achieving of these strategic goals requires a more rational allocation of the limited public resources, a more efficient use of these resources, and a more visible and controlled outcome of government programs, including the ones for the defence. But in this case the following question occurs: How the government can "build the defense" more effectively? Part of the answer lies in the way in which the best management practices in the defence sector are adopted in the business sector, where achieving the intended results is of paramount importance for the survival of any organization in a competitive environment [1].

2. Determination of requirements of the armed forces of specific types of equipment and/or services

The systems of armament and military

DOI: 10.2478/kbo-2020-0015

equipment are in most cases very high-tech and therefore expensive goods. The process of their acquiring takes a lot of time and effort and is usually designed for long service life. But very often it is happening that military systems are used to perform the very different tasks they were originally designed for. This is especially true of military platforms, ie. combat machines, ships, planes and helicopters. The armies of many countries around the world still have combat platforms purchased decades ago and subsequently upgraded to extend their service life. A prime example is the US B-52 plane for aircraft. Although adopted in 1955, it will be able to remain in service until 2040 or even longer, following the upgrading of the hull with the modern generation model. Many organizations are involved in public procurement projects, but in terms of the scale of such activities, few can be compared to military defense procurement professionals [4,5].

It should be taken into consideration that defense budget options are rather limited. What this means is that the resources allocated to equipping the state's armed forces are probably not sufficient to provide absolutely all or even most of the needs necessary to sustain all types of military organization activities. This means that difficult decisions will need to be made as to which weapons and military equipment should be included in defense programs and which ones should be postponed or even abandoned altogether. Here it is important to notice that since the defense activity is funded by the state budget, the procurement component of this activity is subject to special attention by the media, the public and the legislative branch of the government. Moreover, the activities of supplying the state's armed forces do not remain out of sight of the outside world. Such attention is understandable and completely justified and it is perfectly normal. But on the other side, this means that the existing problems in the field of the arms defense forces supplement with the demanded equipment and services, could very easily be “colored” into political shade and to become a subject for a politics discussion [6].

Because of the explained above, it is very important not only to be guaranteed the effective management of military projects for procurement but and their rational use of the country's defense budget funds and also every effort should be made to ensure that decisions taken in the process regarding the need to purchase certain types of weapons, military equipment and/or services are well balanced and justified in order to prevent the unjustified expenditure of large amounts of the country's defense budget. If at the first stages of the procurement project there are taken wrong decisions, the armed forces could be in a situation, in which they would be forced to use weapons, machines or equipment for many years that do not meet the requirements and objectives or are even completely unsuitable for practical use. Such an equipment (armed equipment or facility) will be either not useful for the practice at all, or will require significant financial costs to modernize as demanded. Therefore, it is very important to make the right decision from the outset and make sure that the purchased equipment is really needed.

But when and under what conditions it is necessary to purchase one or the other military equipment? If we are talking about strategic planning, military tasks and military planning parameters are developed in accordance with the main directions of the state defense policy and as a whole they determine the military capabilities that the armed forces must attain. These tasks and parameters are then analyzed and evaluated, the results of which determine the needs for specific capabilities (equipment, military equipment or weapons). The identified needs are then compared with the options already available and the options that are not available for fulfilling the assigned tasks or meeting the approved parameters

are determined. [7]. Procurement activities are activities aimed at transforming the production and other capabilities (specific experience in a specific field) of external organizations into resources that can meet the needs of the armed forces with the necessary equipment. The shortage and, accordingly, the need to acquire certain military capabilities may arise for a number of different reasons, which should emphasize the following:

- Policy change. New military tasks may emerge, the performance of which will require appropriate capabilities. For example, there has been a growing focus on expeditionary operations involving NATO and European forces recently. In order to participate in such operations, the Armed Forces must be more flexible in order to be able to conduct operations for a long period of time and to have sufficient means of operational delivery in the area of operations of military units together with the necessary equipment.

- A change in the nature of the threats. New threats may occur or the nature of existing threats may change. If these threats are identified as sufficiently serious and appropriate training and retraining of the armed forces is needed to combat them, this may also lead to the need for new capabilities or a new set of capabilities.

- Changes in the field of the technology. As technology evolves, new, more effective ways of performing military tasks may emerge. On the other hand, the emergence of new, more advanced technologies leads to the fact that the technologies already used are aging.

- Changing military concepts and doctrines. Although that the military concepts are defined at Government level or even in some cases at International coalitions level, the Armed Forces exchange experience in the use of military force and seek to develop in the same or similar directions. As a result of changes in military concepts and doctrines, new, more effective methods of performing military tasks may emerge that will push out old methods of conducting military operations.

Although the limited military budget excludes the possibility of providing all or even a small fraction of the identified needs for certain capabilities, it is very important very carefully and deep those needs to be analyzed and very correctly to be identified those of them, that are from a first level importance. In this case, it must be based on the provisions of the defense policy and the parameters of defense planning. It is often the case that based on the relevant documents, only a very rough idea of the needs of the armed forces for new capabilities is drawn up. Therefore, in order for the defense program to be realistic and well-balanced, all identified needs must be carefully analysed and evaluated. Such work is traditionally performed at the level of individual types of weapons and military equipment (battle tanks, planes, ships, artillery, etc.). As a result, unreasonable decisions are often made regarding the implementation of certain procurement projects. For example, sometimes it is known that obsolete weapons or military systems must be automatically decommissioned and instead of that to buy more modern analogues or if a likely adversary or an adversary coalition adopts a military system of a certain type, then a system of that type must necessarily appear in the arsenal of its own military organization. Such decisions may indeed be justified, but not in all cases. In generally, an approach can be considered for very restricted, because it doesn't always lead to optimal solutions when determining the need for really needed equipment of one type or another. In recent years, the planning of the activities of the Armed Forces has increasingly been based on an analysis of military tasks and the identification of capabilities that are necessary for their demand (we are talking about capacity-oriented planning, unlike the previous threat-based planning methodology, which is based on an analysis

of existing and potential threats). This new approach requires people who define military capabilities to think more globally and to take into consideration other characteristics including the technical once and those that are following the military doctrines and also to consider alternative solutions for providing the military organization with the necessary tools and capabilities, with the exception of those that appear at first glance. Military planning principles based on capability analysis usually require people who determine the needs of a military organization to use traditional methods to meet those needs. But one should never think that the traditional method of performing a particular task is the only or the best method. For example, Western forces are increasingly paying attention to peacekeeping operations in the "hot spots" of the globe. This in turn dictates the need for funds to rapidly deploy military units to the area of operation and support their operations throughout the duration of the operation, which can take quite a long time. But before deciding whether to upgrade or expand the existing aviation fleet, other methods that may be more effective need to be considered. This could be, for example, the use of aircraft for leasing, renting or acquiring or using them on the basis of leases with civil aviation undertakings. Which means, it is very important that decisions on how to meet a particular need be made on the basis of sound rational calculation using analytical methods and tools. Not at very last place, this can be explained with the fact that the traditional approaches for such problems solution can be very expensive and also the inability or inability to go beyond the traditional approaches to addressing the issue of providing the armed forces with the necessary resources and capabilities may result in the project providing adequate capabilities may receive a lower priority level in the overall military program than the level a priority that really deserves it.

Many of the above issues are considered in the context of general military planning and development of the armed forces, not in the context of military procurement. Therefore, ways to address these issues are beyond the scope of this study. As already mentioned, the needs determination process involves a detailed analysis to refine their parameters and differentiate them according to the level of priority. At some stage, this work must become the subject of activities of the military procurement manager. Different countries use different approaches to address the question of at which stage the job should be transferred to that manager's responsibility. This, in turn, depends on the functions traditionally assigned to the organizations concerned by the legislation. In general, it should be noted that the modern military organization is less and less concerned with technical issues and consequently gradually loses experience in the technical field. Therefore, when the necessary demands are defined in the complexed specific projects then the Armed Forces are increasingly being forced to turn to outside organizations providing consultancy services. As far as this tendency is really existing and is developing in the military organizations of many countries in the early stages of public procurement projects, acquisition teams for the implementation of public procurement projects are being set up which include and involve military experts in the field of public procurement for external sources, and the procurement cycle, among other things, a project evaluation and project definition.

Whether using this particular scheme or any other scheme, there are two important considerations that need to be addressed. The first is that the procurement manager must be involved in the overall needs' determination process as early as possible. First, he will act as a consultant who is aware of the situation in the relevant market and is able to offer possible optimal options. Second, it will enable him to better

understand the needs and requirements of the necessary tools or equipment from the perspective of his future consumer.

The second consideration relates to the question of at what stage needs-specific functions should be transferred from the consumer to public procurement professionals and when they solve financial tasks, the procurement professionals need not always be limited in their actions by the user's demands. The Procurement Manager must be responsible for concluding the most advantageous contract with the external supplier. To do this, it is necessary to analyze all the available equipment and/or services proposals on the market and to choose the ones that best meet the stated requirements of the respective project in terms of technical characteristics, costs and delivery time. In the case of the purchase of very specific equipment and / or services, market offers can be very limited and therefore the function of the procurement manager in this case is to exclude options that are unacceptable. In this case it is necessary to decide which of the requirements should or, conversely, not restrict the actions of the procurement manager. But in this case, it is necessary to separate the technical requirements from the requirements of the user. Generally, the technical requirements are what the final user is most excited about. That is, they answer the question "what effect should be achieved", while consumer requirements answer the question "how the desired effect should be achieved". When concluding contracts with external suppliers and analyzing these contracts, technical requirements will ultimately be crucial, because they determine what will be delivered specifically and therefore determine the criteria for evaluating the products delivered as part of a specific project for the award of the contract. procurement. But if the technical requirements are approved very early, ie. from the very beginning stages of the project, this can lead to practically the fact that instead of selecting the most optimal solution, the procurement project will be limited to a specific technical solution. This means that alternative solutions that may prove to be more effective will be rejected without consideration, and the procurement manager will not be able to honestly answer the question whether the solution was the most optimal for the effective use of the allocated budgetary resources. Therefore, the definition of the technical requirements should be made not in the initial stages but in the later stages of the procurement project and this should be done not so much by the user as by the procurement manager.

To illustrate the above, we give one example. The case is: it is necessary to obtain means to protect the ground on the battlefield from enemy air attacks and that the portable air defense system has been identified as the best equipment of defense. At the same time, the consumer requires such a system to provide certain assurances that the aerial targets which may pose a threat to the units in a particular territory will be destroyed. This leads to at least two user requirements. First, this is the area of the territory whose protection must be provided by the air defense system, and second, this is the ability of the system to deal effectively with the objectives of certain specific species. But these requirements can be met not by one but by multiple technical solutions based on different combinations of different equipment, ie radar systems of different range of operation, missiles of different range of action and characteristics of the likelihood of hitting the target for the first time, etc. If the user tries to interfere in the process of determining technical parameters, the choice of the final technical solution may not be the best in terms of efficient use of taxpayers' money.

3. Conclusion

Military procurement is not just a process of acquiring the necessary equipment and / or services to meet the needs of the armed

forces. This is a complex activity that must cover all stages of the life cycle of a separate procurement project – from the determining the need for certain equipment and/or services and till the disposing of that equipment or terminating the service period. Adequate funding for the first stages of the project, especially at the decision-making stage for the purchase of certain equipment and/or services, will contribute to the successful implementation of all other stages of the project. The procurement process, which aims to meet the needs of the armed forces, involves selecting the best technical solutions in terms of price/quality of equipment and/or services. Therefore, the final choice of a technical solution must meet the requirements of the user (who sometimes imposes unreasonably high technical requirements) only to the extent that does not jeopardize the possibility of the project as such.

References

[1] Antonov S.I, Hristozov I.S, *Information systems for armament and equipment exploitation control*, Sbornik dokladi ot Mezhdunarodna nauchna konferentsiya na Voenna akademiya „Georgi Stoykov Rakovski" – „105 godini znanie v interes na sigurnostta i otbranata", Sofiya, 2018, p.p. 268–374, ISBN 978-619-7478-00-6.

[2] Antonov S.I., *Comparative analysis of the armament and equipment support modules in the field of command and control information systems of NATO armies*, International Scientific Journal "SECURITY & FUTURE", Year I, Issue 4, 2017, pp. 163-167, WEB ISSN 2535-082X; PRINT ISSN 2535-0668.

[3] Conev C., Antonov S.I., *Possibilities for automation of designing elements of small arms using CAD/CAM/CAE systems*, International scientific conference 2016, "Vasil Levski" National Military University, "Artillery, Aircraft Defense and CIS" Faculty, Shumen, Bulgaria, 2016, ISSN 2367.

[4] Conev C., Antonov S.I., *Investigation of the dependence of the second frequency changing of natural cross vibrations of the small arm barrel with complex shape and mass that is attached on the barrels end*, "Vasil Levski" National Military University, "Artillery, Aircraft Defense and CIS" Faculty, Shumen, Bulgaria, 2015, ISSN 2367-7902

[5] Terziev, V., Bankov, S., Georgiev, M., *The Change in the approach of the court of justice of the European Union in the context of market freedoms and internal situations*. // Journal of Innovations and Sustainability, Plovdiv, Bulgaria, 4, 2018, 3, pp. 85-112, ISSN 2367-8127 (CD-ROM), ISSN 2367-8151 (on-line).

[6] Terziev, V., Bankov, S., Georgiev, M., The Stability and growth pact: pursuing sound public finances and coordinating fiscal policies in the EU member states. // Journal of Innovations and Sustainability, Plovdiv, Bulgaria, 4, 2018, 3, pp. 53-68, ISSN 2367-8127 (CD-ROM), ISSN 2367-8151 (on-line).

[7] Terziev, V., Petkova - Georgieva, S., *A research study of nonlinearity experiencing in the rate of current account deficit to the Bulgarian health and care national product*. // Proceedings of SOCIOINT 2019- 6th International Conference on Education, Social Sciences and Humanities 24-26 June 2019- Istanbul, Turkey, International Organization Center of Academic Research, Istanbul, Turkey, 2019, pp. 525-533, ISBN: 978-605-82433-6-1. DOI: 10.2139/ssrn.3411558