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MINIMIZING THE DEVIATIONS IN DEFENSE PROJECTS: THE TURKISH CASE

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Abstract:
In strategic documents published by Undersecretariat for Defense Industries, it is viewed that Turkey has targeted to have both authenticity and high technology in defense projects since its importance has been clearly defined in previous studies However, when the official reports have been examined it is also viewed that Turkey has failed to reach its objectives in this field. This study aims to present applicable solutions to minimize deviations in defense projects. In order to do that in an effective way, current projects of Turkish Defense Industry, strategic documents, conferences and academic publishing are examined. Obtained data is analyzed by using the methods of descriptive analysis, document and discourse analyses. Both the ideas of Turkish defense experts and outstanding examples from the world have been taken into consideration and concrete suggestions aiming to minimize deviations in this field are tried to be put forth in conclusion part.

Key Words: Minimizing the Deviation, Defense Projects, Defense Industry, Turkish Defense Projects

1. Introduction

Throughout history it is seen that, if a country's military and/or political power weakens, the possibility of starting a war increases; thus countries may feel oblige to defend themselves [1]. According to De Gaulle; national security heavily depends on a country's military power and its own high authentic and technology oriented national defense industry [2].

Although Turkey targets to have high technology and technological independence within this concept, it has been failed to reach this target. For this reason Turkey has generally preferred to carry out a foreign capital policy which includes forming a kind of multinational consortium with foreign companies in defense industry. As a result, there are not many numbers of projects which include high technology or based on an authentic product, apart from some attempts related to national sources and exceptional cases [3]

- Ignoring the importance of defense industry in a certain period of time,
- Lack of common insight in technological objectives and long term strategical plan,
- Not to develop supply systems in terms of having an authentic technology,
- Because of grants, not to intend developing new products might be listed as the main reasons in this situation [3]

During the recent years, in order to overcome this negative situation, Turkey has targeted to increase the number of its own national defense systems and determined the coverage ratio of defense needs as 50% within Turkey until the end of 2010 [4]. This objective was reached in 2011 nevertheless [5].

National, authentic and high technology is needed while providing defense systems. In order to have this kind of technology, scientific researches should be built on military needs and provided by research and development. However, most of defense products are produced according to foreign designs and manufactoring technologies [6]

A powerful defense industry could be developed by the projects in which at least the critical components are supplied within a national project. Morever, marketing of these products to other nations and being economically proactive in international area should be the strategic objective [3].

2. Main Contractors within Defense Industry and Current Projects

Together with the developing technology, Turkish companies have started to undertake different contractor responsibilities in complex and large scale defense projects. These projects both have technological and administrative difficulties in terms of reaching the objectives. These difficulties do not only pertain to Turkey. The average rise of incremental costs is 29% in large scale American defense projects [7]. For instance, although American Air Forces planned to purchase 381 F-22 planes, they were only able to have the budget to purchase 183 [8]. The main reason of supply problems in America was that they could not identify the project needs clearly and started to develop the product before research and revelopment phase [7].

In Turkish Defense Industry, Forward Air Control Plane (Boeing), Maritime Patrol Aircraft (Thales), Mine Hunting Vessel (Abeking Rasmussen-Lurssen Werft), M60 Tank Modernization (IMI), Tank Fire Control System (ASELSAN) projects are could be given as examples in which serious delays have been experinced [7].

3. The Experience of Project Problems of Turkish Defense Industry

FNSS was faced with the problems of insufficient specification, indefinite acceptance conditions, qualification, many numbers of subsystems, inexperinced contractors and customers and developing designs within the contract in its armoured combat vehicle project between 1989-1999 and 2000-2004. However, when the projects conducted with Malaysia has been examined, it is seen that comprehensive technical specification and acceptance conditions are determined in the beginning of the project and technical committee meetings are conducted regularly; thus a limited number of modification have been made in the project [7].

Altough ASELSAN company has taken concrete steps in quality management, underexplained tactical and technical needs in contracts, insufficient and wrong predictions of

time, supply and contract related issues which are not prepared according to the features or maturity level of the project are the main problems in defense projects in Turkey [7].

The main problems that TUSAS company confronts are expressed as not conducting the subcontract in paralel to the main contract, negative changes affecting the programs in terms of time and budget, recurring demands of different departments in project management and reporting [7].

4. The Minizimation of Problems of The Projects In Defense Industry

The project performance equals to triple functions consisting of time, budget and technical/quality performance. Any occuring problems in one of them affect the total performance of the project and the problems could not be tolerated with the other advantages in other functions (HAVELSAN, 2007). On the other hand, the internal factors of a successful project are solid substructure, ability to manage substructure (Project management) and executive support. The factors of a solid substructures are quality assurance and testing [7].

4.1. Meeting the expectations: Quality control

"Quality" is defined as no difference between the standards and specifications in the beginning and after the procurement of the project [9]. In our day, quality control has gained significant importance and quality assurance and codification become a part of daily life [3]. In this context, quality certification applications have gained importance for defense industry as well. While aiming to regularly increase the level of meeting the needs of defense industry within the national sources in strategic plans, applying the national and international project standards to these defense projects should not be ignored. This standardization should not be an application which is only based on documents but a dynamic process consisting of periodical examinations and a high level of feedback. These processes should be supported by international military and/or civil authorities [3].

4.2. National test centers

Testing infrastucture and capabilities of public institutions, national and foreign contractors are being used for the current defense procurement projects. Mentioned testing infrasturcure and capabilities are considered to be insufficient for authentic national systems projects and verification tests. Therefore gaining capabilities of testing and assessing to be used during and after production process of defense systems produced by the defense industry is one of the priorities [4]

Tests considered to be critical or increacing the effectiveness of expenditure which must be performed nationally in the country are those:

Environmental Test: Scaling of the durability of defense systems to environmental conditions

- Air Platform Test: It will help test manned or unmanned aircrafts for the certification of flightworthiness.
- Land Platform Test: It will help perform the physical tests of land platforms in order to carry out the feasibility studies.
- Naval Platform Test: It will help perform the physical tests of naval platforms in order to carry out the feasibility studies.

- Firing Test: It will provide testing capabilities of rocket, missile and ordnance.
- Electronic Warfare Test: Electronic warfare systems' performance and effectivness tests will be done
- Satellite Test: It will provide service to all the current and future satellites will help collect information and develop human resource.
- Software Certification: Software products developed for defence industry will be tested, and product software developments process will be assessed and documented [4].

5. Conclusion And Suggestions

At the present time developed countries decreased their external dependence and had got a corner on the market of international defense industry by using their national resources and technology. Turkey as well has aimed to increase the ratio of national resources in the defense expedition over 50% however succeeded in 2011 [5].

Defense industry has become more complicated as technology and information systems invloved in more defense projects. Therefore in defense projects, all three basic functions (cost, calendar, quality/technic performance) had deviations from objectives. In order to minimize these deviations:

- There should be independent quality inspections in defense industy projects. In order to execute these inspections Turkish Standarts Institute (TSE) and Turkish Accreditation Organization (TÜRKAK) should work in coordination for establishing independent and defense project experted organizations.
- National test centers should be established in order to perform tests in critical defense industry areas. Those centers should also provide support in case of neccesity to test the product in every phase of producing process.

It has been understood in this study that one of the most important issues of the defense industry projects is the lack of personnel specialized in project management, contract management, quality management and law. It is considered that discussing the personnel issue in project perspective will make a major contribution to this study as well as other defense industry studies in Turkey.

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