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ESTABLISHMENT OF A PROJECT

Abstract. The article discusses two elements in the initial project management area, the establishment of a project, those elements having a significant impact on the course and implementation of the project: designation of the project manager and determination of the project management structure. The possible options and their characteristics are presented. Specific considerations, including individual approach to every project, related to project management at OBRUM are referred to in the summary.

Keywords: project management, project manager, matrix structure, project team.

1. INTRODUCTION

Every organization, including "OBRUM", aims to set up an organizational structure [1], [2], [3] capable of achieving high economic efficiency and optimal use of resources and effective cooperation with the environs. This became particularly important after the incorporation of OBRUM into the Polish Armament Group (PGZ) and in view of the ongoing organizational integration with two manufacturing plants: ROSOMAK S.A. and "BUMAR-ŁABĘDY" S.A., which sets down demanding requirements and new challenges for OBRUM's management.

The current organizational structure of OBRUM [4], with an important element in company management included, the Project Management Office, is shown in Fig.1.

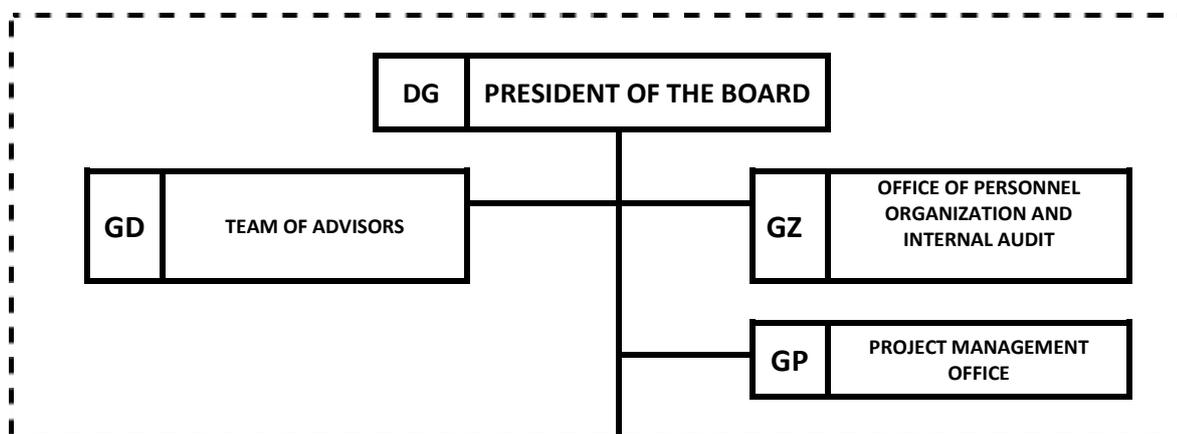


Fig. 1. OBRUM - organization chart (fragment)

At OBRUM the project managers report to the head of the Project Management Office which is directly subordinate to the President of the Board.

Designation of the project manager and the project management structure are key issues in project management, which must be resolved at the early stage of establishing the project. These decisions are decisive for the final success or failure of the project.

2. PROJECT MANAGER

The available very extensive literature on project management (for example [5], [6], [7]) a lot of information is devoted to the role of the project manager and to the desired and the necessary personal characteristics and formal requirements. An article on this problem, which characterized the role of the project manager, was also published in this magazine [8].

"Project manager is a specialist in project management with proper qualifications and professional experience. He/she is that member of the project team who has the largest influence on the creation, accomplishment and final effect of the project. Project manager is responsible for the success of the project. He/she is seen as the leader of an undertaking, who has to control and maintain the adopted stipulations on the budget, number of resources, time schedule, communication within the team; he/she should ensure a balance between the project baselines. Each project manager should have charisma, sufficient authority, enabling him/her to influence the project team members and decision-makers at higher levels of management".

The role of the project manager and other managerial roles is associated with the performance of the basic management functions: setting goals and objectives, planning, organizing, motivating, controlling (monitoring and coordinating).

The Project Manager should also be each of the following [7]:

- project leader;
- mediator;
- mentor;
- economist;
- organizer;
- bureaucrat;
- head of human resources;
- psychologist;
- seller.

The position of the project manager, because of his/her role in the project, is the object of numerous research papers [9], [10]. Table 1 summarizes the personality characteristics of the project manager that senior managers deem highly desirable [10].

Table 1. Personality characteristics of the project manager that senior managers deem desirable

Personality characteristics most often perceived as indicative of an effective project manager	Personality characteristics least often perceived as indicative of an effective project manager
Conscientious – completes jobs, sticks to deadlines, perseveres with routine and fixed standards	Independent minded – overly self-confident, difficult to manage, contradictory
Vigorous – thrives on activity, likes to keep busy, and enjoys having a lot to do	Conventional – too cautious and conservative, unwilling to risk, preserves well proven routine methods
Controlling – takes charge, directs, manages,	Modest – avoids talking about self,

Personality characteristics most often perceived as indicative of an effective project manager	Personality characteristics least often perceived as indicative of an effective project manager
organizes, and supervises others	reserved about achievements
Socially confident – eager to establish contacts with others, comfortable with strangers	Theoretical – intellectually curious, focused on concepts and logical structures, enjoys abstract concepts
Evaluative – critically evaluates information, looks for solutions, alternatives and limitations, seeks errors and inconsistencies	Worrying – worries when things go wrong, susceptible to stress, uncertain in action
Persuasive – enjoys "selling", changes opinions of others, negotiates, convinces with arguments	
Behavioural – analyses others' actions and thoughts, likes to understand people and their motivation, behaviours	

Success in project management depends on many interrelated and interdependent factors. The key figure in the entire undertaking (project) is undoubtedly the project manager. Studies [9] have shown that the three major success factors in a project are associated with the position of the project manager:

- assigning a project manager – 93%;
- his/her competencies – 89%;
- high authority – 85%.

3. MATRIX MANAGEMENT OR A PROJECT TEAM

When a project is initiated a project management structure should be adopted. There are many different variants [6], much dependent upon the nature of the project. All forms of management have distinctive features, both advantages as well as drawbacks. The differences between the functional organization and the projectized organization are mainly in the responsibilities of project managers and team members and the communication system within the entire organization. In a matrix organization the position of project managers is stronger than in the functional organization, and communication between employees of different departments is possible without the mediation of department heads. There is therefore a "horizontal" flow of information, not only "vertical", along the line of subordination.

3.1. Functional organization

In a hierarchical functional organization, all employees having a defined range of skills (for instance engineers, accountants, marketing specialists) work within one department and report to only one manager, who is responsible for the functioning of that department.

3.2. Matrix structure

The matrix structure - weak, balanced or strong [6], [15] - is an intermediate organizational structure, wherein project managers and department heads share between

themselves the responsibility of setting priorities and managing the work of the staff assigned to projects. The project manager is responsible for the success of the project, while the heads of departments are responsible for providing him/her with the resources necessary for project implementation. A strong matrix is similar to a purely projectized organization, whereas a weak matrix has many features common with the functional organization. Fig. 2 shows a weak matrix structure.

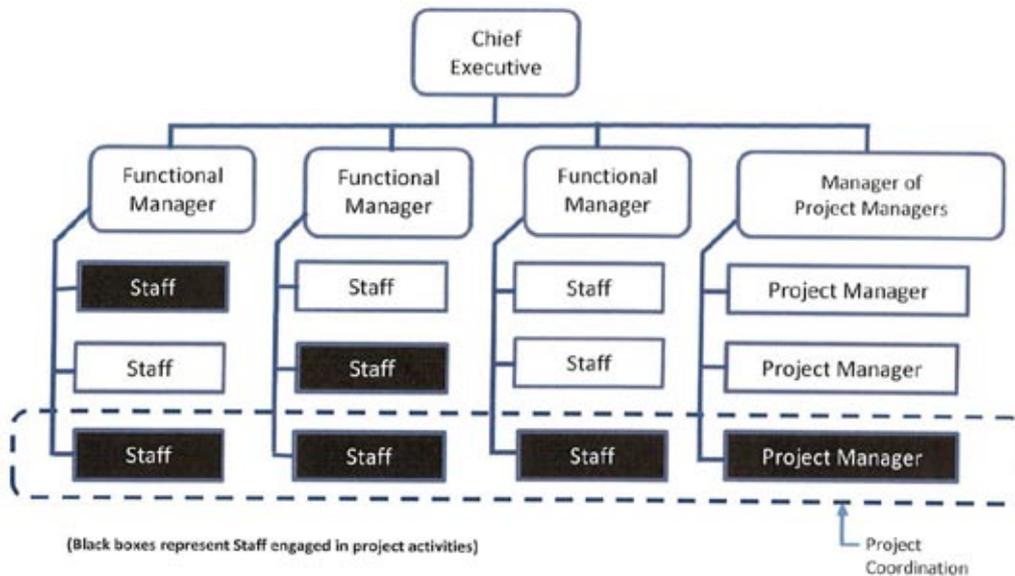


Fig. 2. A weak matrix structure

A matrix organizational structure is built around problems or projects, the implementation of which the organization is involved in. They are usually included in the rows of the matrix. Fig. 3 shows a strong matrix structure for project management.

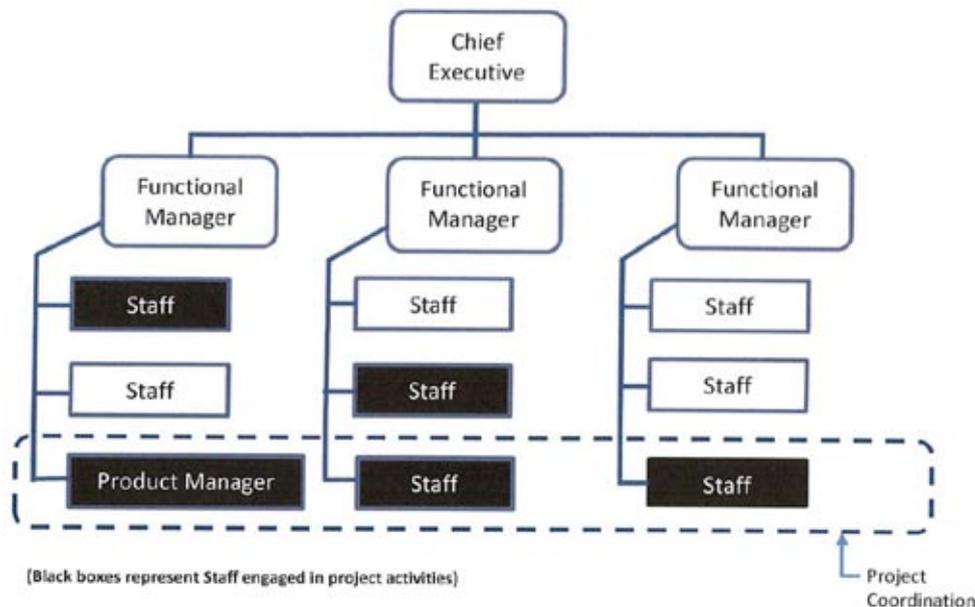


Fig. 3. A strong matrix structure

The columns of the matrix correspond to permanent repeatable functions similar to those of the functional structure. Advantages of a matrix structure include [11]:

- creating conditions conducive to interdisciplinary work;
- fostering the development of cooperation skills;
- flexibility;
- creating a high sense of identification with the goals of the organization by the employees;
- creating automatic coordination mechanisms;
- promoting synergy.

Disadvantages include [11]:

- high cost of management,
- difficult supervision,
- prolonged task execution (discussion is favoured, not action).

3.2. Projectized organization

In a purely projectized organization all, or nearly all employees assigned to a project report only to the project manager. Fig. 4 shows a diagram of a projectized structure.

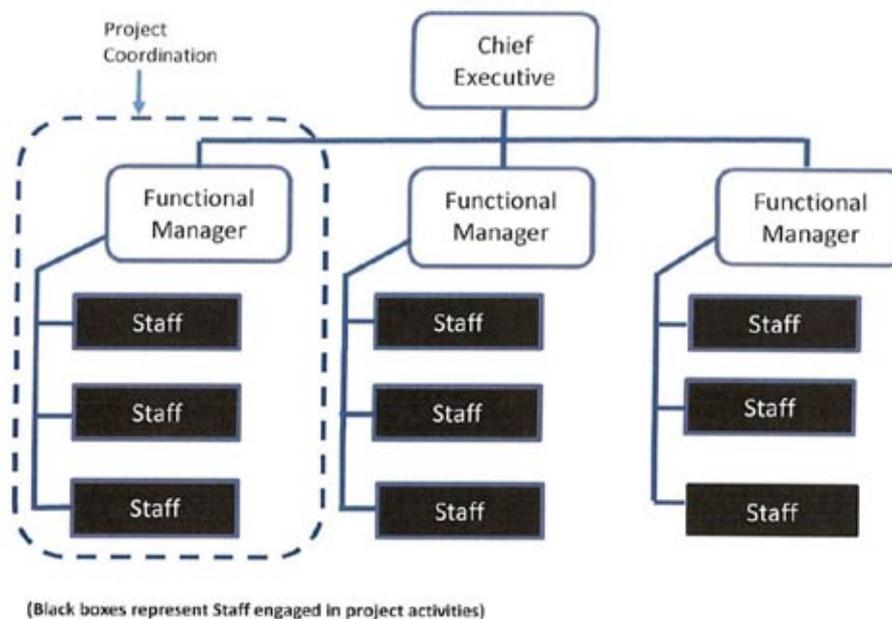


Fig. 4. A projectized structure

In a projectized (task-oriented) organizational structure competencies are assigned only to the projects being implemented. The management function is also distinguished within a project.

The advantages of this structure include [12]:

- use of the expertise of specialists;
- high flexibility and ability to respond quickly to new problems emerging during the project;
- relieving the executives of the problems of current management.

Some of the disadvantages include [12]:

- competition within the company between the various projects;
- tension and conflicts emerging between the project team and the rest of the enterprise;
- lack of a sense of stability and uncertainty of team members related to the situation in the company after the project completion;
- potential overlap of certain activities, when a number of projects is run simultaneously;
- the possibility of project teams stabilization and a desire to carry on a project indefinitely.

3.3. Organizational structure and project management

The features of the different forms of project management are summarized for comparison in Table 2.

Table 2. Organizational structure and project management

Organization type	FUNCTIONAL	MATRIX			PROJECTIZED
		Weak	Balanced	Strong	
Project manager's authority	Little or none	Limited	Low to moderate	Moderate to high	High to almost total
Personnel assigned full time to project work	None	0 – 25%	15 – 60%	50 – 90%	85 – 100%
Project manager's role	Part-time	Part-time	Full-time	Full-time	Full-time
Common titles for project manager's role	Project coordinator Project leader	Project coordinator Project leader	Project manager Project officer	Project manager Program manager	Project manager Program manager
Project management administrative staff	Part-time	Part-time	Part-time	Full-time	Full-time

4. SUMMARY

Previous actions aimed at comprehensive project management undertaken at OBRUM [13], [14] have created a good starting position for cooperation with other organizations within PGZ. Analysis of the forms of project management applied at OBRUM enables identifying a strong matrix structure and a projectized structure.

Diverse nature of the projects run by OBRUM (commercial, research and development, promotion and marketing, information technology, services) for clients from both the military and civilian sectors, requires an individual approach to each separate project.

An additional difficulty are the different requirements specified in the regulations of competitive procedures or in terms of reference in the tendering process.

Assigning the right project manager is a key element of any new project. The basic matrix structure of management is only one of the possible variants. Does it always have to be a strong matrix structure or perhaps a project team? The project team, which is referred to in section 3.2 (formed, for instance, to implement a project of military nature), carries the risk of restrictions and isolation from other professional groups existing at OBRUM.

An intermediate solution offers the balanced matrix [6], [15]. It requires the project managers and department heads to continuously improve communication skills and to mediate continuous availability of resources. Managing employees who have two or more superiors usually turns out to be rather complicated, the more so that the power of the project manager is not as strongly pronounced as in the case of a strong matrix. Constantly changing roles and responsibilities of the employees require the development of an effective communication system. However, the organization of this type (Fig. 5) proves appropriate when less than half of the staff is assigned to various projects.

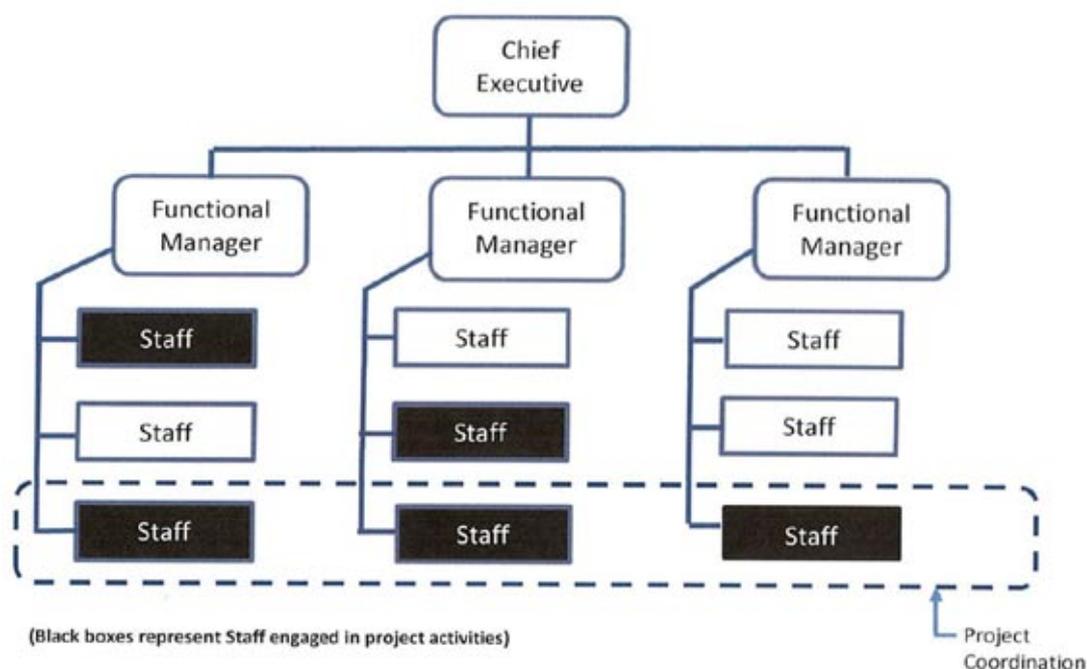


Fig. 5. A balanced matrix structure

When establishing the next project, the OBRUM's Management Board will have to face a difficult task. A project manager with the right personality characteristics has to be assigned, and the proper project management structure has to be adopted. The diversity of options complicates the management of such an organization as OBRUM.

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