



CENTERIS - International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANagement / HCist - International Conference on Health and Social Care Information Systems and Technologies, CENTERIS / ProjMAN / HCist 2017, 8-10 November 2017, Barcelona, Spain

Projects Selection and Prioritization: A Portuguese Navy pilot model

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Abstract

In the face of rapid technological changes, short product cycles and strong global competition, it is vital that organizations know how to optimize their scarce resources and thus profit from investments with the goal of obtaining the expected benefits and successes. One of the great difficulties facing organizations is the large number of projects that they usually have in their portfolio. Therefore, it is necessary to select and prioritize which projects become essential, to guarantee the maximum return on investments and the sustainability of the organization. Although there are several approaches to analyzing and selecting projects, there is no unanimity about which methodologies to apply. When analyzed in more detail, all approaches presented advantages and disadvantages which need to be considered. Project selection also depends on the nature and profile of the managers and on the techniques, that best fit the organization's environment. This study analyzes and establishes the link between the academic literature and a pilot model of selection and prioritization of projects developed by the Portuguese Navy. The project was carried out to improve the support and allocation of the necessary resources and forces for the accomplishment of the Navy's missions in the context of Portugal's National Defense. The results obtained ensure the necessary alignment with the academic literature and reinforces the credibility of the proposal model for the selection and prioritization process.

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Peer-review under responsibility of the scientific committee of the CENTERIS - International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANagement / HCist - International Conference on Health and Social Care Information Systems and Technologies.

Keywords: Portfolio Management; Projects Selection and Prioritization; Project Management, Portuguese Navy Portfolio

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1. Introduction

The recognition of the strategic importance of managing projects in the corporate world is rapidly increasing¹. One important reason for this may arise from the strong belief that the alignment between project management and business strategy can significantly enhance the chances for organizations to achieve their strategic objectives^{1,2}. One of the great difficulties for organizations is the large number of competing projects in their portfolios. It is necessary to consider that the budget and resources are limited, and that this may delay or conflict with other projects, compromising the organization's strategy. Developing the ability to select and prioritize the appropriate projects is one of the key points to ensure maximum return on investments for the organization^{3,4}. However, there are many organizations that only use financial methods to select projects, such as ROI, VAL or Payback. According to many authors, organizations that rely only on these financial methods have a worse portfolio performance⁴.

Tregear and Jenkins⁵ identifies nine differences between public and private sector organizations that influenced the way the portfolios are built, namely; (1) The public interest; (2) Public accountability; (3) Political sensitivities; (4) Whole-of-Government ecosystems; (5) Budget cycle complexity; (6) Information exchange; (7) Regulating society; (8) Machinery of Government changes; (9) Culture.

Projects represent important challenges for organizations and ensuring that projects are aligned with strategy is one of the key factors for success of organizations^{6,7,8}. There are no ideal models for selecting projects, however, portfolio management should be developed to help organizations strive for the best possible results⁴. The present case study was carried out within the framework of the Portuguese Armed Forces (PAF's), more specifically the Portuguese Navy. The main objective is to build a project portfolio, which is the main investment instrument of the PAF's. As in other sectors of the economy, selecting and prioritizing projects is equally vital for the organization's success. Projects selection and prioritization is aimed at constructing and sustaining the necessary forces and resources for the accomplishment of the PAF's missions, and this is considered extremely important for both the organization and the country. The strengths and weaknesses of the PAF's are identified and projects are developed to eliminate these shortcomings, which will have a distinct impact on the fulfillment of the PAF's missions, and consequently on the contribution of the PAF's to national defense policy, with internal and external repercussions.

The prioritization of these projects is determined at an early stage by a multi-criteria analysis, particularly considering the results of the risk assessment of each of the gaps for compliance with the PAF's missions. Subsequently, a cost-benefit and sensitivity analysis is carried out, which considers a set of constraints imposed on the level of available resources, mainly financial. The objective of this study is to identify the theoretical models established in the academic literature for the introduction of portfolios and to validate the PAF's pilot model for the selection and prioritization of projects, supported by the theoretical models, whilst considering the specificity of the military context.

2. Literature review

2.1. Project Portfolio

A portfolio refers to projects, programs, sub-portfolios, and operations managed as a group to achieve strategic objectives⁹. In a portfolio, the components do not have to be interdependent or have common objectives, but they must be quantifiable, classified and prioritized individually. A project portfolio is a group of projects that compete for scarce resources and are conducted under the sponsorship or management of a specific organization^{3,10,11,12}. There are three well-known objectives of portfolio management^{10,12}: (1) The maximization of the portfolio value; (2) The linkage of the portfolio to the strategy, and; (3) Balancing the portfolio. According to the literature, project portfolio success is comprised of several dimensions^{12,14,15,16}: (1) Average project success - which includes the classical success criteria of budget, schedule, and quality adherence, as well as customer satisfaction of all projects in the portfolio^{10,12}; (2) The use of synergies is also used to measure the success of a portfolio - which includes the use of technical and market skills that the projects in the portfolio produce among themselves^{10,12}; (3) Strategic fit - which incorporates the extent to which all projects reflect the corporate business strategy¹⁷; (4) Portfolio balance - that balances the project portfolio with respect to risks and expected benefits³; (5) Preparing for the future - which deals with long-term aspects and considers the ability to seize opportunities that arise after the projects have been brought to an end¹⁰; and; (6) Economic

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