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Building an Executive Dashboard for a Project Portfolio
Bernardo Nicoletti
Advisory Article

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By Bernardo Nicoletti

Introduction

Project management requires careful planning and control at different levels. This paper will concentrate on the monitoring of a project portfolio from an executive point of view.

The process of planning and management control consists of a set of rules, procedures, and organizational structures designed to ensure compliance with the organization's strategies and the achievement of the following objectives (the four E):

- Effectiveness, in terms of reaching the purpose of the projects on scope, time, cost, and quality;

- Process Efficiency, in terms of achieving the objectives of the project with the least resources of the organization (administration, production, distribution, etc.)

- Economics of the projects, in terms of assuring the profitability of the projects and the protection from risks and losses;

- Ethics and compliance of operations to assure that the projects comply with the law, regulations and policies, plans, regulations, and procedures of the organization.

The Executive Dashboard

A project portfolio dashboard should provide the executives an accurate and current picture of what is happening in the organization. It should allow an overview on the conditions in which the project portfolio is positioned.

The Monitoring

The dashboard should include the KPI (Key Project Indicators) critical to the organization. They are metrics that monitor the progress of a project.
There are mainly four types of KPI for a project:

- Indicators to measure the goal achievement, from the project start up to the hand-off for acceptance;

- Indicators of time and measures of the volume of work to evaluate its progress;

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- Quality indicators: assessing the quality of the output, according to certain standards;

- Indicators of costs.

In the following paragraphs, the KPI are considered from three different aspects:

- Commercial;

- Operational;

- Financial.

The Commercial Point of View

From a commercial point of view, it is particularly interesting to build a dashboard that helps to improve the performance of the organization and its projects in terms of firm orders or cash flows. It is therefore necessary to monitor the status of orders and their status. Orders can be organized by product line, by region or by customer, depending on the type of organization.

Beyond the orders from the commercial point of view it is interesting to examine the so-called Pipeline. This term usually refers to the process of acquisition of orders and their progress. A Pipeline starts with the client's request or the response to a Request for Proposal until the execution of the order or contract.

The Operational Point of View

From a operational point of view, the Operational Executive Dashboard must include a view of all projects and their progress on respect to their objectives in terms of scope, time, resources, and quality:

With regard to the active projects, it is useful to split the projects in the portfolio between

- Number of projects in "In Control"
- Number of projects "With critical"

The criterion for allocating the projects in these classes is:

- Projects in control: ((Actual costs / financial estimation at completion) = <% progress)

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- Projects with problems: ((Actual costs / financial estimation at completion>% progress) estimated by CP.

The dashboard should then focus on the major projects on the basis of criteria:

- Relevance of the customer;

- Cost of the project;

- Criticalities in the Project.

For major projects, the dashboard should contain indications of:

- The Overall Project Health;

- The margins;

- The trend of the margins;

- Financial Estimation at completion;

- Free form comments;:

- Resources necessary for completion and their availability.

The Financial Point of View

From the financial point of view affects the Dashboard should examine the financial situation of the whole organization. It then goes on an appraisal of operational-level projects as a single project, segment and set of all projects ta vision of the entire organization.

The variables to consider in economic values are:

- Income from Operations;

- Sales;

- Gross Margins;

- Variable Costs;

- Overheads.

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The Process of Building a Dashboard

Definition of the management control system (MCS)	Verification that the MSC is adequate for the monitoring	Reporting on the controls and evaluation of their effectiveness	Follow up and changes

Figure 1: The process to monitor a project portfolio

To actively manage a monitoring process, it is necessary to follow the implementation of the macro activities listed in the Figure 1:

- Define the system of executive controls;

- Check the adequacy of the controls on the project for the purpose of monitoring;

- Plan and report on controls on the project to the executives (and if contractually provided to the customer).

- Tune and follow up on errors and changes.

The process of building a dashboard

Figure 2: The process for building a Dashboard

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The technical architecture for building dashboard should be as shown in Figure 3. The first step is to build a prototype using spread sheets. In this way:

- You can run in the system by making the appropriate tunings;

- At such an early stage it is possible to implement quickly the dashboard, without waiting for the building of the automatic file interfaces.

In a second step, the application should be moved to the Business Intelligence (BI) core module. It is important to aim for an automatic production of the dashboards in order to reduce the manual work to produce the dashboard and make it a real-time tool.
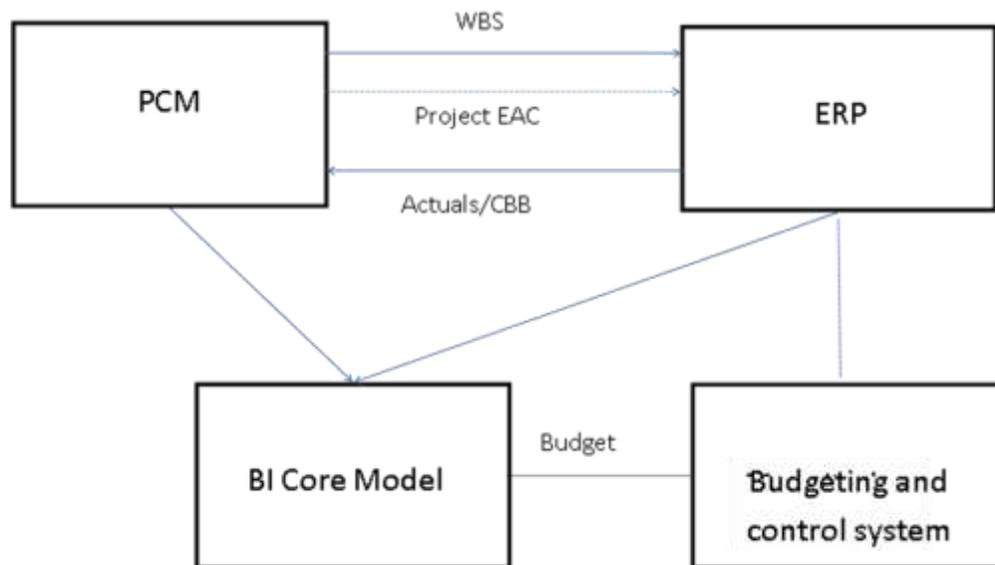

Figure 3: The Architecture of the Enterprise Information System.

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Bernardo Nicoletti is author of *Lean and Digitize: An Integrated Approach to Process Improvement,* published by Gower in 2013. Bernardo graduated from Carnegie Mellon University, Pittsburgh, PA, USA. He worked for GE Capital, as Group CTO, GE Oil & Gas, as CIO, and AIG, with assignments in Italy, UK, USA and Latin America. Currently he is Professor of IT Procurement at the Master in Procurement of the University of TorVergata, Rome, Italy. He also provides consultancy services in Europe and Asia on IT Strategy, Organization and Procurement.

Bernardo has been particularly active in the application of Lean Six Sigma to Financial Institutions. He calls his approach 'Lean & Digitize' and over time has developed a specific methodology as a way to reduce costs and improve quality, bringing value to the Business. He is the author of 20 books on Management, published in Italy. He has been a frequent speaker in International Conferences and has published 200 articles. www.bernardonicoletti.com.

More about his latest book, Lean and Digitize, can be found at http://www.gowerpublishing.com/isbn/9781409441946.