

Project controlling and portfolio management

Whitepaper

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Abstract

The bigger the organization, the harder it is to obtain the overview of projects in progress. The lack of such view provides problems with effective risk prevention and mitigation. Most companies monitor punctuality of deliveries, however not all of them can be accurate in defining budgetary performance at any given moment. The solution may be an implementation of project portfolio management in order to measure and report the *real time project management* indexes with the minimum effort.

APINI is a Web 2.0 portal system for gathering and exchanging information in knowledge driven enterprises. It also contains task, project and resource management features for management in project-oriented organizations. The system functionality focused on supporting project management embraces:

- Project portfolio creation and management.
- Project controlling based on balanced scorecard.

According to SearchCIO.com study from June 2009, 38% IT companies with over 1000 employees use software facilitating project portfolio management. According to the respondents, the most beneficial features of these systems are:

- Resource management (60%).
- Financial controlling (41%).
- Portfolio management (30%).

Regardless of the company branch, typical problems caused by poorly developed project controlling are:

- Problems with assigning appropriate number of resources to the projects.
- Project delays caused by lack of resources.
- Overloading of key personnel by assigning them too many projects.
- Frequent changes of project status.
- Executing projects without strategic benefits.
- Internal competition for resources.

Intended audience

This whitepaper is a publication created by Verax Systems' experts and specialists. Its purpose is to highlight the most important issues related to project portfolio management and project controlling and present our customers and partners the key information about the products we offer.

1. Introduction

APINI enables managing strategic projects executed in parallel. The system allows for:

- Creation of an integrated database (*project inventory*) comprising wide-scope project information (type, work force, functions, risks, deadlines)
- Creation of a *Big Picture* consisting of all projects realized within the organization, whose aim is to enable analysis of costs and benefits and comparisons with the long-term strategy.
- Improvement in communication and informing about projects in progress.
- Synchronizing and prioritizing parallel projects.
- ROI analyses.

The project controlling and portfolio management in APINI consists of the following functional blocks:

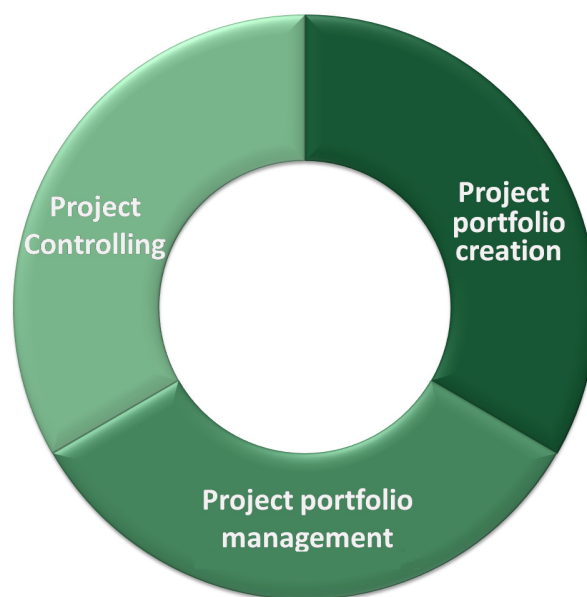


Figure 1: Three main functional blocks in APINI project management.

Project portfolio creation functionality allows for optimal usage of available resources and executing as many tasks as possible in the shortest time. The aim is to manage internal projects (e.g. market surveys, new IT systems implementations) as well as external ones (deliveries, customer service). The functionality allows for aggregating projects in groups (portfolios) with common features, e.g. products, geographical markets, technologies, duration. APINI answers the following questions:

- Are the projects in progress the most appropriate ones?
- Does the organization invest in the relevant areas?
- Does the company have relevant resources to accomplish the planned projects?

Project portfolio management, offers a possibility to create a certain number of portfolios. This makes the entire company picture more transparent and allows for selection and management of optimal, aggregated projects. All activities related to defining, choosing, financing, monitoring and executing projects, may be conducted directly within the application. Grouping projects into portfolios has a wide range of benefits:

- Defining project importance hierarchy.
- Better coordination and resource usage.

- Up-to-date reporting available *on-line*.
- Homogeneous rules of project rating.
- Information about the resources involved.
- Rapid flow of information (e.g. about the delivery date).

Project portfolio management also offers rankings and project execution status monitoring.

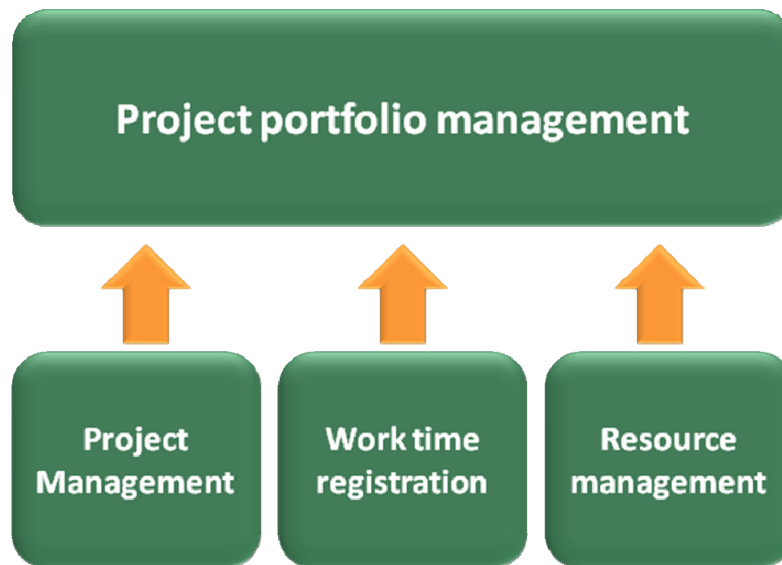


Figure 2: Project portfolio management elements.

Project portfolio management is highly integrated with other functionalities, including:

- Single project management.
- Work time registration.
- Human resources management.

Project management comprises project structure and schedule management, including division into phases.

Work time registration module is a time sheet interface allowing for recording of task execution durations.

Human resources management allows for management of the personnel involved in the project. It enables user rights management, assigning them appropriate roles within the projects and workload analysis.

All the blocks mentioned above are described in the following sections.

2. Project portfolio creation

According to a study by Deloitte conducted on 490 companies, 75% of managers consider projects not in line with the general enterprise strategy as the main management problem. This is especially the case for internal projects. One of solutions may be a formally defined methodology of project portfolio creation.

APINI supports project portfolio creation by defining a project importance hierarchy. The importance factor is based on a weighted sum within various categories. The following categories may be defined by the users:

- Strategy input.
- Economic benefits.

Project controlling and portfolio management

- Risk level.
- Technology requirements.
- *Know-how* development.
- Other unique project factors.

Each of the features may have its weight (exemplary weights are depicted below), which determines the key criteria of project selection. Based on this, a project ranking list is created.

	%
Necessity	50
Economic benefits	30
Risk level	20

Figure 3: Project rating criteria and their weights.

The next step is budget estimation. APINI has the functionality of calculating the necessary financial, work and other company specific expenditures. The starting point in the preparation for project realization is the project selection.

The next step of portfolio creation is planning projects in time and assigning the available resources. Thanks to the integration with the APINI resource management module, it is possible to plan their optimal usage and control their production capabilities. This is essential in short- and long-term decision-making processes regarding project accomplishment and company functioning.

	Necessity	Realization risk	Economic benefits	Result
Project 1	8	5	5	6,5
Project 2	4	6	8	5,4
Project 3	10	2	3	6,2
Project 4	5	1	2	3,2

Project selection	Cost (kEUR)	Work expenditure (hours)
+	102 000,00	1000
-	-	-
+	25 000,00	350
+	3 150,00	90
sum	130 150,00	1440

Figure 4: Project portfolio creation.

The following step is such scheduling of the projects, so that the resource demand is leveled in the particular periods. It is essential to be able to postpone the kickoff of projects within the total time intended for realization. In order to level the periods when the resource demand exceeds their availability, some of the tasks should be transferred to periods with low resource usage. This allows for optimization of the resource usage within the pool available for the company. APINI gives the project manager a complete overview of the available options and helps make decisions necessary to accomplish the required tasks, e.g. hiring an additional employee.

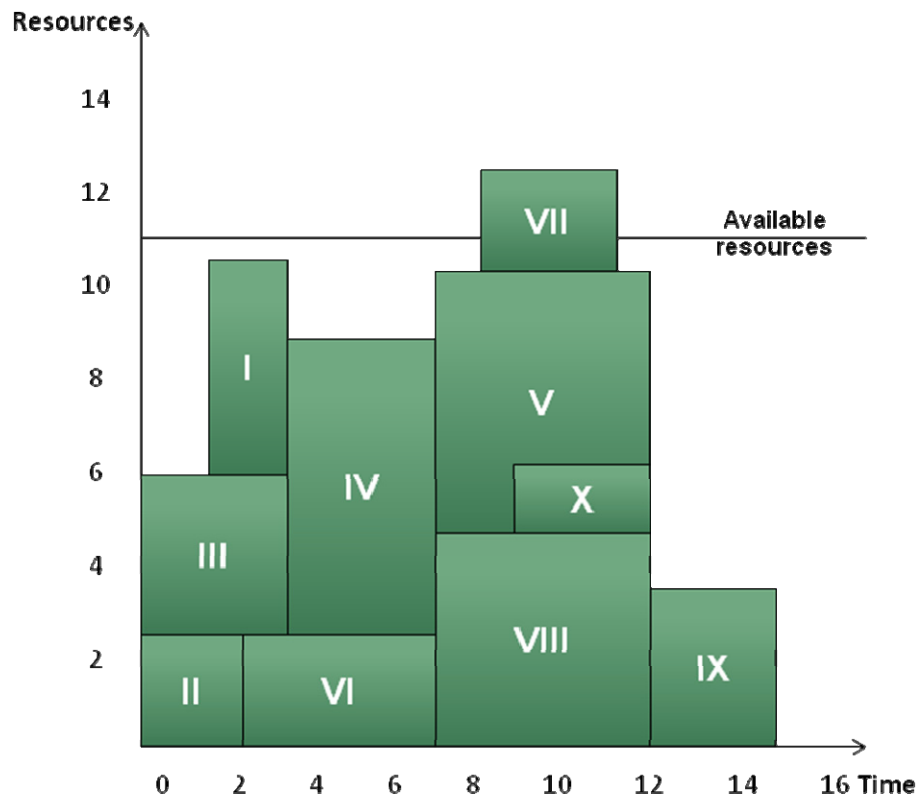


Figure 5: Resource planning.

3. Project portfolio management

APINI allows for ongoing work progress tracking within the entire project portfolio. The user can monitor the status of particular projects, including their division into phases. The status of each phase is presented as one of the following:

- Completed.
- In Progress.
- Planned.
- Suspended.

The phase status values may be extended or redefined at the system configuration level.

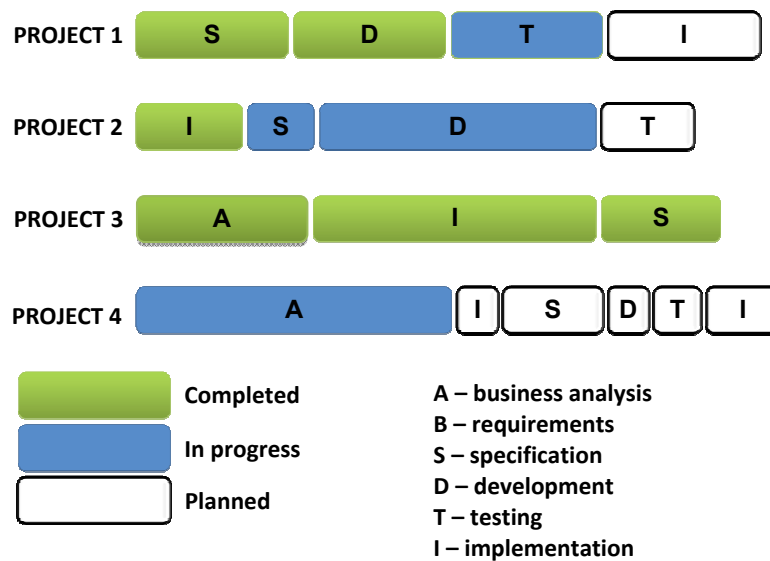


Figure 6: Project portfolio and phase status visualization.

Within each phase, the system enables visualization of:

- Project execution progress.
- Deviations from the planned values (e.g. timeliness, effort).
- Resource utilization level.

All these aspects are available at any time and presented using relative values:

- For “Completed” phases – *real value to the planned value.*
- For „In progress” phases – *planned value to the real value.*

As for deviations from planned values, the system allows for project performance control through such indexes as:

- Shortening or extending task durations (deadlines).
- Shortage or surplus of human resources necessary for completing a task (work load).

This functionality provides instant information about early completion or delays of executed projects. In case of negative deviations, it allows the project manager to undertake the necessary corrective actions to complete the project on schedule or postponing the execution of a planned project in case of demand for the same resources.

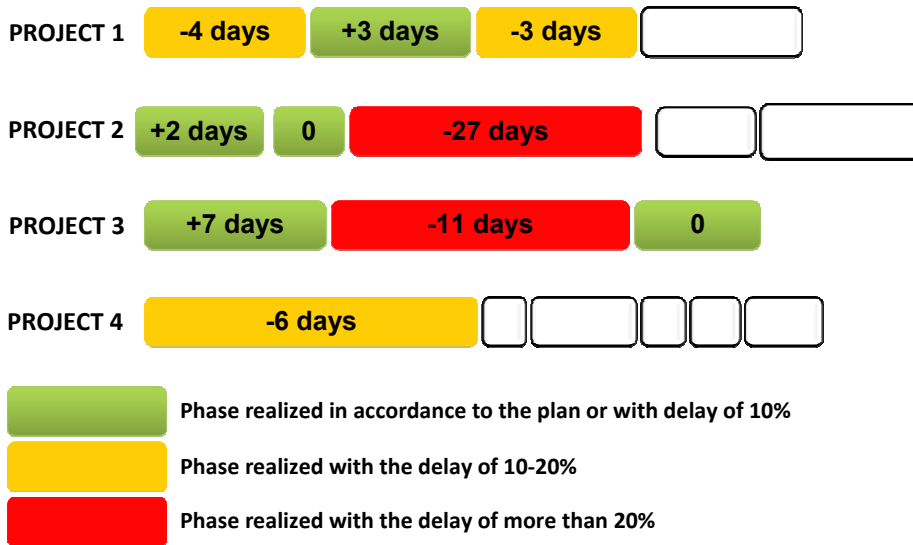


Figure 7: Deadline deviations visualization.

The last aspect of project monitoring is use of a performance indicator illustrating the level of resources assigned to each task.

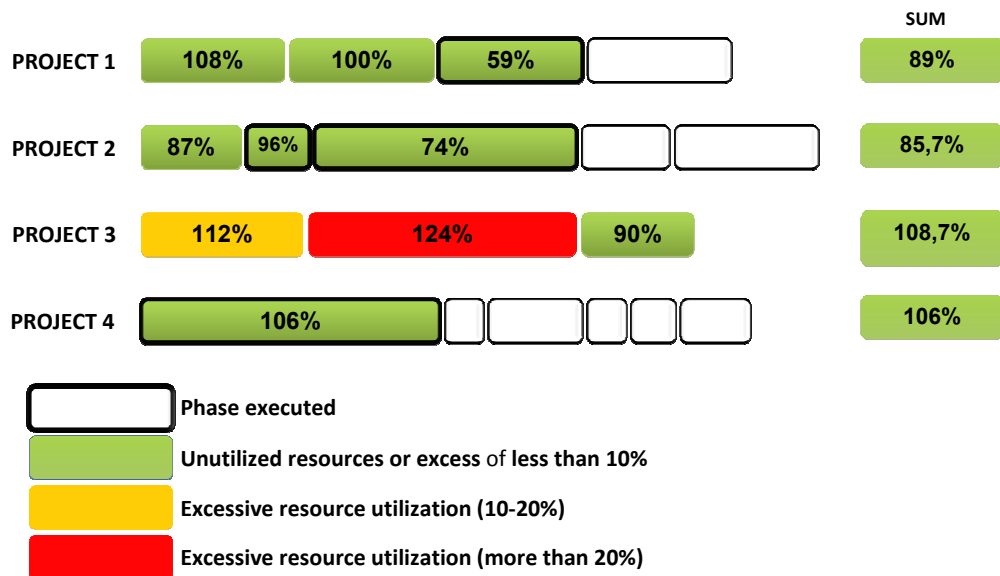


Figure 8: Project budget use visualization.

All indexes may be displayed in both – percentage and absolute values.

Project management and agile methodologies

Project controlling is particularly useful when projects are managed using agile methods. In that case, all tasks are assigned *ad hoc* and short-term tasks could obscure the view of strategic goals or project budget.

4. Project controlling

Nowadays, in order to succeed in the highly competitive economy, monitoring of financial and non-financial project execution indicators becomes a must. **APINI Project Controlling** allows for rating the project both after completion of its particular phases, as well as upon the completion of the entire project. Its functionality is based on **balanced scorecard**, an essential tool supporting business management in terms of planning, implementation, monitoring and controlling. Contrary to traditional methods, balanced scorecard is based on **financial and non-financial** performance indicators. This approach provides the right tools for precise controlling and task execution rating, as well as information about the possible deviations in the future.

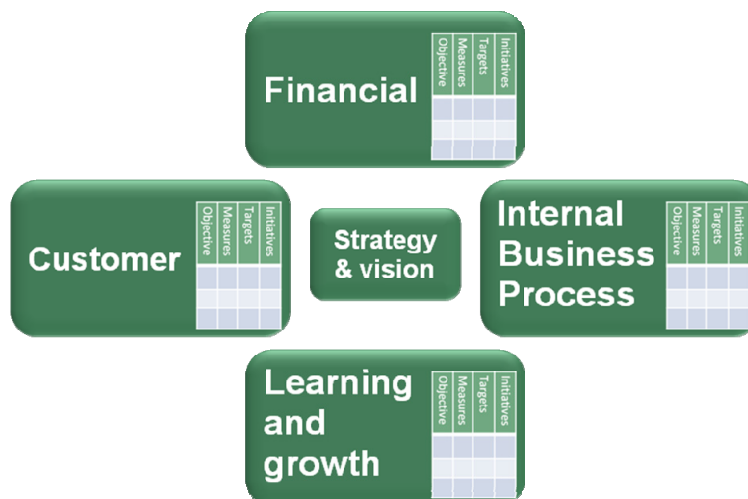


Figure 9: Perspectives of company rating based on balanced scorecard.

APINI Project Controlling, similarly to the balanced scorecard method, is based on four perspectives:

Financial – directly demonstrating the results of the undertaken activities. Exemplary indexes are:

- Project profitability.
- Project timeliness.
- Budget compliance.

Customer – showing the market and customer reaction to the project. Exemplary indexes are:

- Probability of repeated orders.
- Customer satisfaction.
- Rate of complaints.

Internal processes – allowing for steering of projects in progress, both in terms of project management, as well as technical parameters. Exemplary indexes are:

- Production capacity utilization.
- Number of changes in the project.

Development – resources used in project. Exemplary indexes are:

- Employee qualifications.
- Employee involvement.
- Technologies used.

APINI Project Controlling provides graphical presentation of the results based on key performance indicators (KPI). In addition, the system allows defining trends and preparing business forecasts in each of the company's perspectives. This is necessary to make short- and long-term decisions related to project realization. The system also offers the ability to compare planned and achieved results.



Figure 10: Exemplary KPI visualization.

5. Summary

Globalization and knowledge-based economy have become the challenges for innovative enterprises. The environment where the companies expand is highly demanding and competitive, which in turn is a challenge with regard to the right selection, control and monitoring of the executed projects.

Implementation benefits

APINI enables organizations to achieve a real competitive advantage in the area of project execution, by:

- Effective management, personnel and task assignment management.
- Constant monitoring of work progress indicators.
- Maximization of resource utilization.
- Management based on indexes and reports.
- Project knowledge retention, despite staff rotation.

Return on investment

According to a survey by IDC, the return on investment rate of PPM system implementations in the USA amounted to 557% in a 3-year perspective, whereas the investment paid off on average in 7-8 months. According to the respondents, the key areas of benefits are:

- Reduction of overlapping projects.
- Decline of single project cost by 37%.
- Decrease of failed projects by 59%.

For more information about the product, please visit the "Products and solutions" section on our website www.veraxsystems.com.