

Improving business performance through management by projects

Global Developments in Project Management
from Advanced Management Solutions

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Meeting the challenges – managing complexity, managing change

Every organization is under pressure to improve its performance in order to achieve sustained success in today's global marketplace. Every business is seeking ways to become more competitive. For many this means being more efficient – finding ways of doing things faster, and with less. It means being responsive as circumstances change.

Organizations are becoming flatter and leaner, often evolving from functional structures towards matrix or project-based teams in order to improve customer focus and responsiveness. Some companies are going through radical change or re-engineering programs in order to improve processes that span the organization. This often requires that people are brought together to work effectively on cross-functional or multi-disciplinary project teams. These changing management and organizational approaches are creating new challenges in the areas of planning, scheduling, resource co-ordination and management control, as organizations try to cope with meeting the needs of today's customers while preparing for tomorrow. With this complexity, matching the organization's capability and capacity with what needs to be done is far from being a simple task.

Project management – a partial solution

Many organizations have adopted project management techniques to help address these problems, but project management on its own will not bring the step change in improved performance that companies are looking for. Many people have had project management training and some are using project planning and scheduling tools, but pick up any newspaper or business magazine and you find example after example of project failures, project delays and budget overruns – something isn't working (see panel – The Analyst's View).

The Analyst's View ...of current project management performance

Gartner Group (1998):

"Project success rates for 'normal' Application Development organizations are dismal. Without transparent, brutally honest planning and project management, Year 2000 programs will yield the same results – at a much higher business cost. Inadequate, incomplete, impossible or misleading project plans will cause organizations with poor planning and reporting processes to fail... at rates at least double of those of organizations whose planning techniques are rigorous and objective in their planning techniques. Enterprises must improve their success... It represents a bet-the-business project whose failure could mean the collapse of the business itself."

Standish Group (1997):

"...of 6,516 IT application projects, only 27% of development projects are successful. A staggering 73% are late, over-budget or canceled altogether."

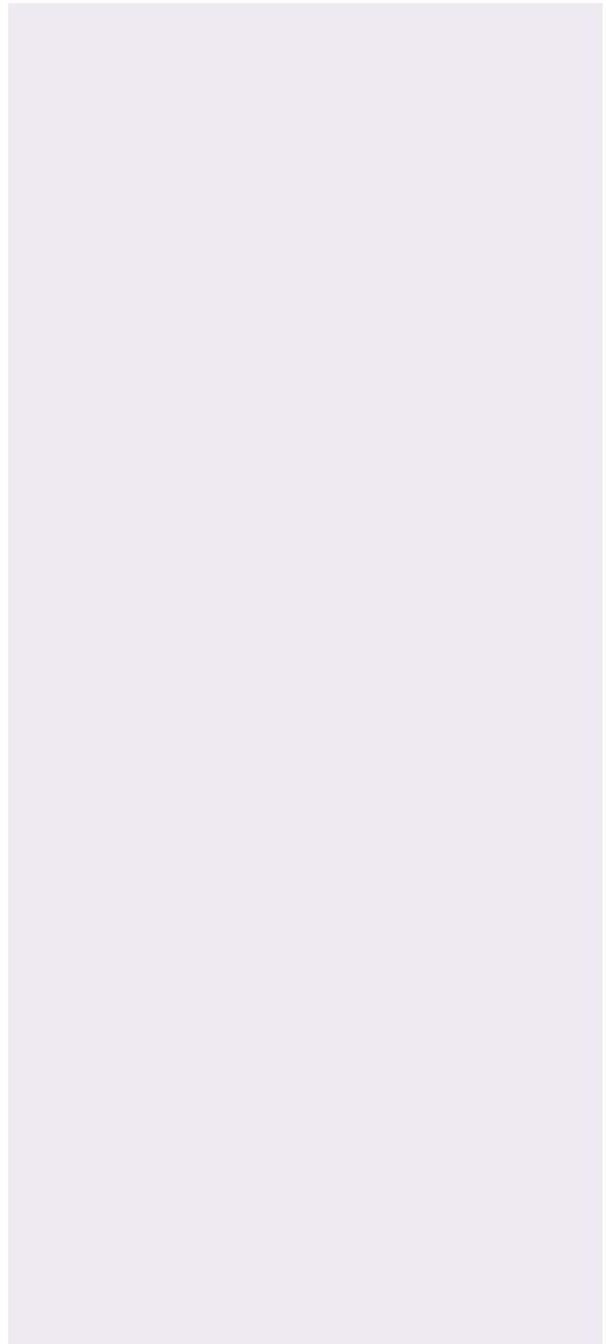
Meta Group (1997):

"...more than half of all new software projects throughout the U.S. are at least 180% over budget, which has resulted in \$59 billion in losses to corporations. One of the chief contributors to the project overruns is a severe shortage of technical and project management expertise."

Whatever projects an organization undertakes – delivering new products, constructing new facilities, implementing new systems or undertaking change programs – project managers will demand the best people to meet challenging goals and deadlines. Unfortunately, your best people are the ones you can least afford to remove from their current project assignments or from day-to-day operations. It's a Catch-22 situation and the consequence is that everyone is working harder and harder, but not necessarily in the most important areas for the short, medium and long term success of the business.

Under these circumstances, project managers often try to commandeer resources in order to force their own projects ahead. This can delay other projects even more. As a result, key staff are working 60-hour weeks, yet are still unable to meet all the demands on their time. Priority projects that only require a couple of months of effort take two years to get completed. And most projects run late.

Worse still, due to lack of information, senior management is often unaware of the problems, or possible solutions, until it is too late.



Management by projects – in practice

Let us take a look at a simplified picture of how an organization plans and manages its work.



Fig. 1. A model of how an organization sets targets and manages its work.

- 1 The process starts with the management team creating a set of objectives that will meet the needs of the business and satisfy the key stakeholders or shareholders.
- 2 Next, a set of strategies must be developed that describe the plans to be put in place to ensure that these objectives are met.
- 3 When these plans are implemented, projects are defined and executed, operations managed, resources assigned, time-scales agreed and ownership allocated.

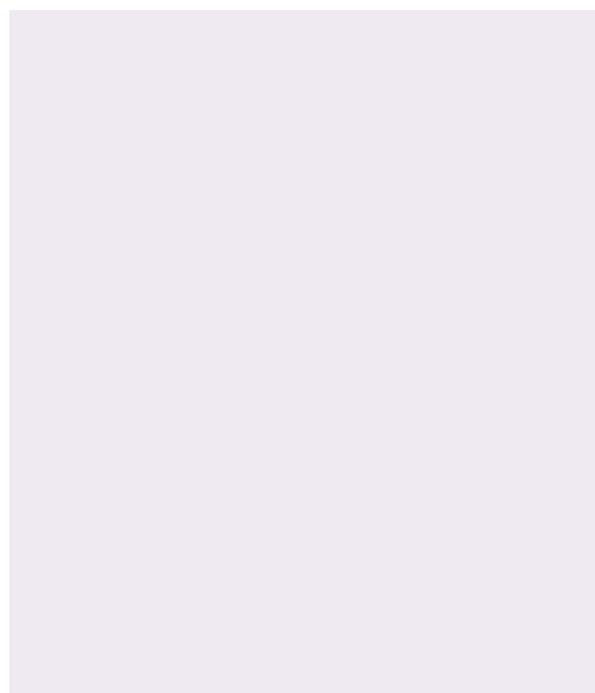
4 Various systems measure accomplishment of the plans – milestones achieved, products delivered, money spent etc. Results are fed back and compared against the plans.

5 As necessary, changes are made to the plans, strategy and even the objectives as necessary, reflecting the organization's progress in achieving its overall business plan.

It all appears straightforward, but many businesses are unable to implement their plans effectively. They cannot cope with change – and it isn't clear where and why the process is breaking down.

The most important issue to recognize, and the reason why some organizations cope with complexity and change while others struggle inefficiently is that resources – the key to the organization actually implementing its plans and achieving its goals – are usually shared across operations activity and project work.

Management by projects is about successfully handling this complexity. And this is extremely important to an organization's success because what usually determines the success or failure of an organization is not how brilliant the strategy is, it's how well the plans get executed.



Management by projects – different roles, different goals

So, every organization's success depends on how effectively it deploys its resources. Most businesses have a mix of projects and day-to-day operational work, with resources often shared across these different tasks. In managing this complex workload, there will be many managers in the organization who will be involved in making this happen. Depending on their role in the organization, different managers such as the general manager, program and department managers, project managers and resource managers, all have different perspectives on the problems to be solved. And naturally, they have different priorities and different information needs.

The interaction between project managers and resource managers is an important issue that must be addressed. Project managers are focussed on the project schedule, deliverables and milestones, while managing their budget and resources. Resource managers are concerned with how efficiently their staff are used, what work has been completed, what's in the pipeline and who it is for, what commitments have been made and what are the time-scales.

Although these managers have different roles, they depend on each other to meet their daily and longer-term project and operational goals. In reality, particularly in a changing environment, there is a constant interaction between project and resource managers as they find ways of coping with delays, resource shortages, changed priorities and new requirements. And, there will be regular interaction between the day-to-day operational work and the projects with short and longer term timeframes, as the projects deliver change to the organization with new systems, facilities, products etc., and as maintenance or other activity affects project schedules.

In an environment where resources are shared across operational work and multiple projects, the needs of managers may be different but their perspectives only reflect different views of the same data. Ultimately, it is

about making the best use of the organization's resources to meet its goals. Both types of manager need to be able to understand the options today, and be able to forecast future requirements and the capacity to meet them.

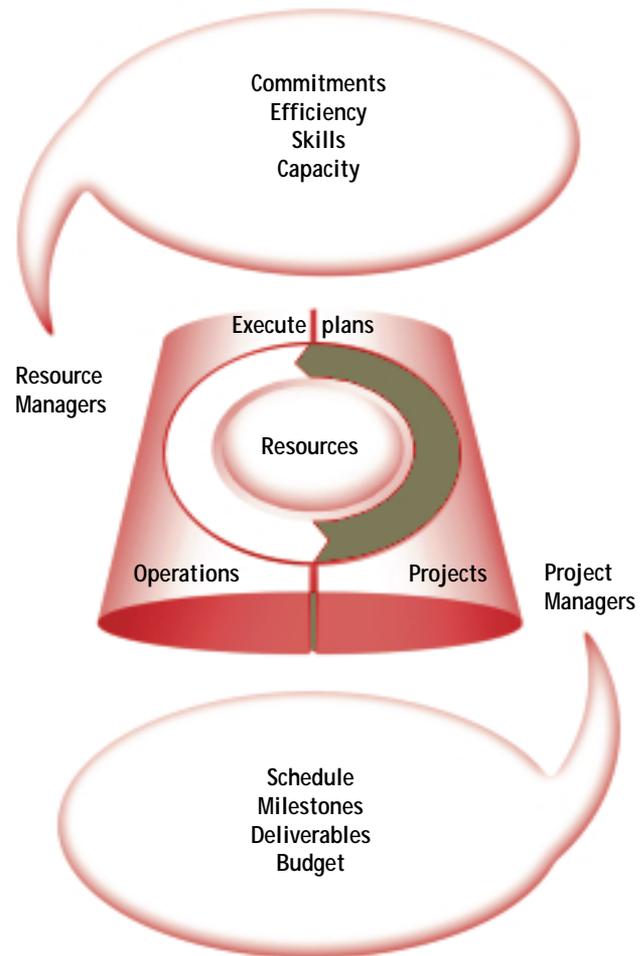


Fig.3 Project managers & resource managers have different perspectives & different information needs

Management by projects – the consequences

The differences between an environment where management by projects is implemented, instead of traditional project management, has some surprising consequences for project and resource managers:

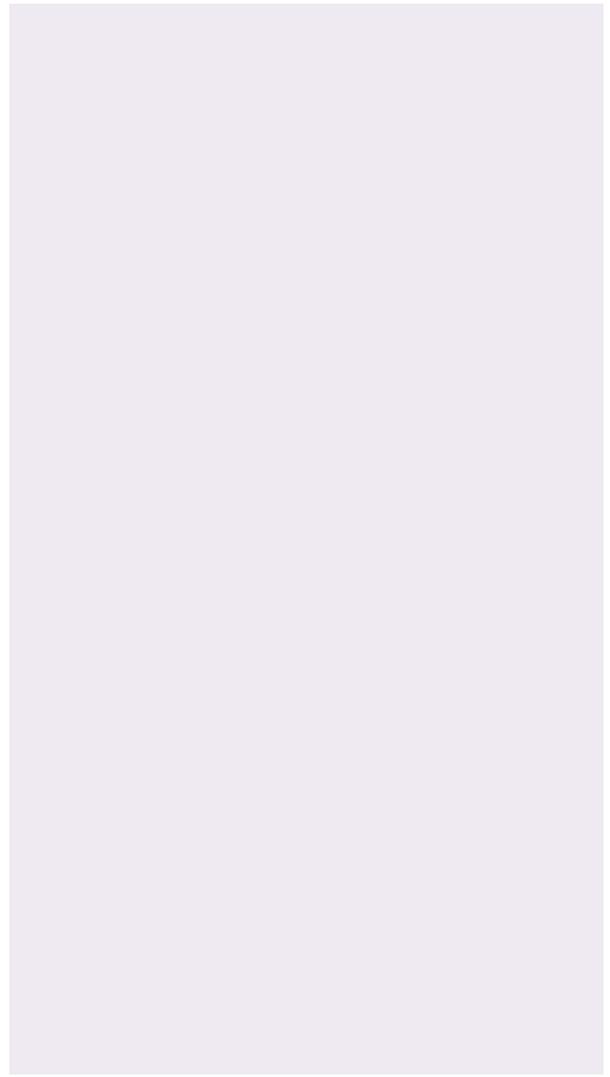
Project scheduling is no longer the top priority for project managers

For most project managers today, the success of their projects is not determined by planning and scheduling a series of critical activities. The toughest challenge is getting the right people assigned to the project team when they are needed. Many companies have no way of prioritizing and sharing their scarce resources across a portfolio of projects. And when projects are of different sizes, levels of urgency and involve complex skill mixes, such prioritization is even tougher.

Resource managers need to do more than simply clear the backlog

In executing any project, no matter how critical, project managers have to justify their need for resources against the demands of other projects, as well as the needs of the business to continue to operate and serve today's customers. Resource managers need to be able to plan and justify their resource needs against the demands of other projects, as well as the needs of the business to continue to operate and serve today's customers.

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Real world solutions

Motorola

Motorola has adopted **AMS REALTIME™** software to implement a new global project management system for its Semiconductor Products Sector (SPS). The new Motorola project management system is designed to provide a global scan of all of the designs, projects and resources that are committed to individual and product development projects within SPS. This will provide superior management visibility and elimination of any duplication of effort.

"To win in their markets, our customers need shorter, more predictable delivery of new products and technologies," said Mike Zill, Director of Information Gateway for Motorola SPS. "The new system will allow us to plan and allocate resources more efficiently for every project, bringing our products to market faster."

Motorola selected the **AMS REALTIME** software because it offered powerful functionality, a consolidated view of work programs, integrated electronic timesheets for automated resource tracking and work status information.

AMS REALTIME is also capable of operating on a variety of computer platforms – including Windows, Macintosh, and Unix – which accommodates all the protocols in use within Motorola. The program is being phased in over a three-year period.

Mike Zill noted, *"The implementation of such a system will involve changes in culture and the integration of new technology and methodologies. We will work closely with Advanced Management Solutions' consultants to ensure a successful, cost-effective implementation."*

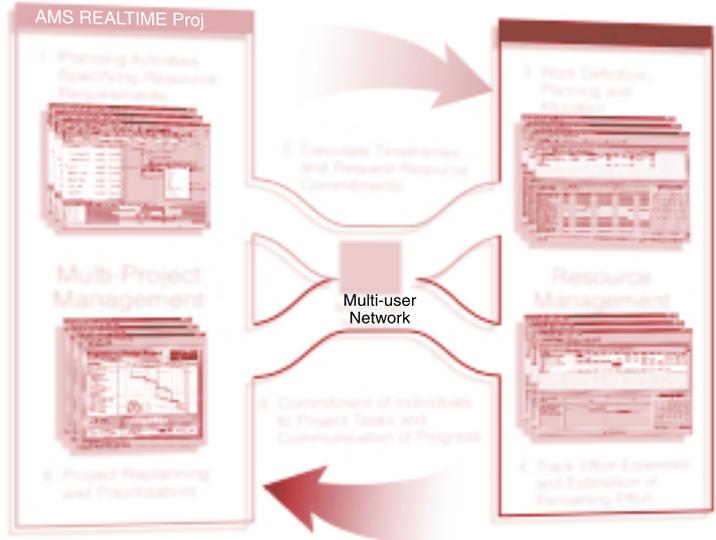
Real world solutions

Royal Air Force, UK

The Royal Air Force Signals Engineering Establishment (RAFSEE) is responsible for the design, installation and integration of satellite communication, data communication, radio communication and electronic systems for the United Kingdom Royal Air Force around the world. In addition to ongoing programs to improve the communications capability of the Royal Air Force, RAFSEE also provides rapid reaction to support deployment of new and secure communications systems wherever needed in case of war or potential conflict.

RAFSEE currently has almost 1,200 active projects ranging from half a man-day's effort in duration to projects requiring 55,000 hours of work. The scope of projects range from rolling programs lasting ten years to refit air-traffic control facilities, to short tasks to evaluate and provide advice to civilian planning inquiries on the impact of new structures such as wind farms on the performance of existing communications systems. Seven hundred staff within RAFSEE use **AMS REALTIME** in three main areas; to support improved project planning and control across all projects; to better manage the allocation of resources across projects and operational work; and to provide electronic timesheets and enable automated updating of project plans and resource availability information.

Bill White, RAFSEE Project Manager, describes the goal of the implementation, *"With the diverse range of projects of different sizes, complexities and skill requirements, we wanted to improve our control of schedule and cost on these multiple interdependent projects while making more efficient use of resources across our whole organization."*



Integration of project and resource management systems with other business applications

For the discipline of project and resource management to be recognized as important to the organization's most senior management, these systems must interact with 'mission-critical' systems, such as the integrated modules of an Enterprise Resource Planning (ERP) system. This usually includes software modules for financial and supply chain management, manufacturing, production, and human resources.

In many organizations, management previously focused on a departmental approach to budgeting expenditure and measuring actual costs. Increasingly, management is demanding that these systems also incorporate a 'project view', as companies in all industries recognize the significant amount of project work now being undertaken and wish to measure where this effort is actually expended. Most ERP systems now incorporate a Project Accounting module to allow the business to have a view of budgeted and actual expenditure by both function/department and also by project.

While an organization may wish to integrate with different elements of an ERP system, for many companies the project accounting module is a logical point of integration to project management systems. In such a scenario, project and resource management systems provide certain capabilities, while project accounting and financial systems provide complementary functionality:

Project and Resource Management

Provides functionality for project initialization, work planning, project budgeting, resource planning, task allocation, scheduling, effort tracking and earned value analysis.

Project Accounting

Provides functionality for cost collection, invoicing, revenue accrual, project asset creation and capitalization, cross-project financial analysis.

Financial/Departmental Accounting

Provides functionality for purchasing, payables, receivables, general ledger and fixed assets.

This is illustrated in Figure 5 below.

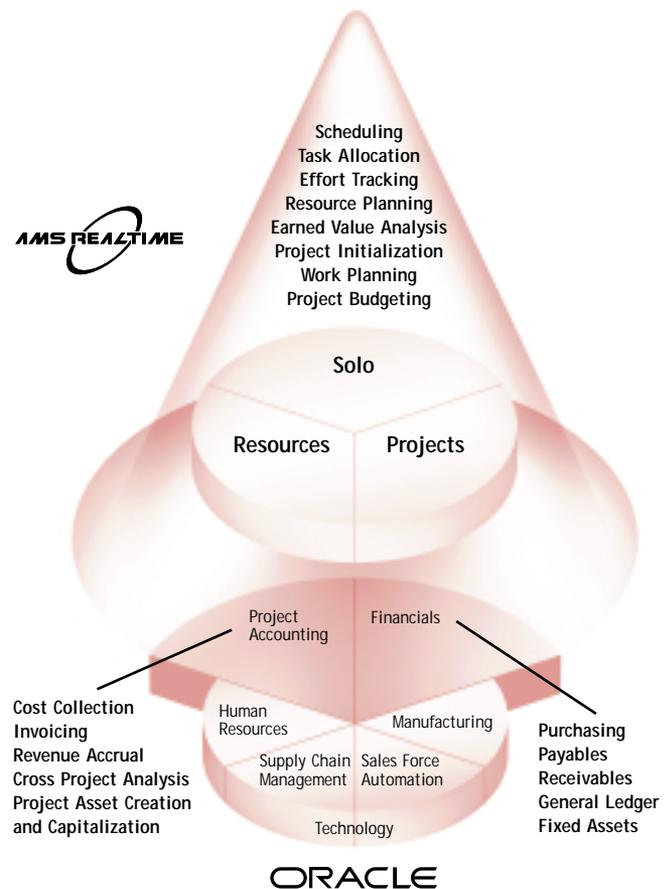


Fig.5 Project and resource management application roles

The Project Lifecycle

Next, consider how these systems might interact in an example project lifecycle:

A new project is initiated in the project management system. The Organization Breakdown Structure (OBS) and Cost Breakdown Structure (CBS), resource definitions and rates are imported from the project accounting system.

The project plan is developed in the project management system, including building a Work Breakdown Structure (WBS) and creating the project budget.

Project resourcing and the real schedule is developed using the project and resource management systems, taking into account all commitments and the real availability of resources.

Once the project is approved and schedule agreed, the new project is initiated in the project accounting system to create visibility within the finance department of new project commitments and requirements. This information transfer includes activity schedules, resource plans and budgets.

Progress information and estimates to complete are captured by the timesheet system and transferred to the project accounting system.

Actual costs are accumulated in the project accounting system and sent to the project management system for earned value calculation.

This example of a project life-cycle is shown in Figure 6.

These products working together help to create an integrated project management environment that links project scheduling, resource management, performance data and cost accounting information for enhanced decision support throughout the enterprise. This results in project information which is consistent throughout the life of the project across project planning, project accounting and resource management.

An additional benefit is that these systems typically will share the same database technology, i.e. Oracle, so that report writers/query tools or the organization's chosen Executive Information System can generate any report required for all levels of management.



Further benefits of integrating project management with ERP systems

There are many benefits to be achieved when project and resource management systems are integrated with an organization's 'mission-critical' information systems.

- Integration of project planning and project accounting minimizes 'non-value added' administrative effort – eliminating duplicate data entry and questions such as 'which data is correct?' – avoiding any disparity between the line manager's data and corporate finance information and the wasted time spent reconciling project management and financial data.
- Use of validated and actual cost information when making project management decisions – measure the true costs and added value of any activity
- Sharing of information initiated by human resources, procurement and accounting with the project management team – in the format that serves each best
- Communication of project management schedules and decisions across the enterprise – avoiding unnecessary purchasing or other expenditure due to changes in project requirements or schedules.
- Identification of cost variances and evaluation of corrective actions using actual and timely cost information
- Analysis of historical project data through shared and consistent Work Breakdown Structures and other project information codes

In conclusion

Management by projects puts in place the tools and processes to drive outstanding organizational performance. It enables the choice of a mix of projects, determining the number of projects the resources can support, defining the sequence and picking the right projects. Management by projects helps organizations identify what is of value in the current workload, to focus on measuring achievement and delivering this value.

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