

Using Project Templates to Improve New Product Development

Déjà vu can be a familiar feeling among product developers; a given firm's new product development projects often have a lot in common. This is due in part because of common technology and market factors, and in part because these projects are taking place against a backdrop of common business, product development, and production processes.

These similarities make it possible to construct project templates: generic project plans, each describing the typical activities, durations, logic, and resources required to conduct a given class of NPD efforts. (For the purposes of this article, a product class is defined as a set of products sharing a number of key attributes, including intended use, market segment, technology content, and regulatory issues.) As illustrated in Table 1 and described in this article, templates can help us plan and manage projects, as well as provide a framework for continuous NPD process improvement.

Benefits of Using Project Templates

A project template typically consists of a WBS, OBS, and an activity network, though as noted below, new software tools are making it possible to include still more information in easy-to-use forms. Templates have three basic functions:

- To improve project planning
- To aid in tracking and communicating project progress
- To provide a focus for continuous NPD process improvement.

Improved Planning. A project template is a good starting point for developing the plan for a specific NPD effort because:

- The template already contains all of the normally required development activities.
- Task dependencies have already been defined, so the resulting project plan should sequence activities and intermediate deliverables properly.
- Using a WBS, OBS, and task scopes that are common among several NPD efforts decreases the time and effort required to develop a new plan.

While a template makes a good starting point for planning, following it slavishly can lead to less-than-optimal results. Each project team needs to challenge its template in light of specific project requirements. Significant critical path reductions can result when a team recognizes that:

- A deliverable included in the template is not required for their particular project.
- More efficient work methods can be applied that shorten tasks on the critical path or permit normally sequential activities to proceed in parallel.

In a recent project, the template served this vital role particularly well: specific challenges by the project team shortened the development cycle by one-third.

Tracking and Communicating. A project template aids in tracking and communicating project progress by providing stakeholders with a:

- *Common language.* Over time, project team members and senior managers will become familiar with a template's structure and set of activity scope statements, allowing people with diverse backgrounds to communicate more effectively.
- *Common yardstick for evaluating progress.* A template's common set of

A good NPD project template allows creativity to flourish, improves communication, and provides a focus for process improvement.

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Table 1. Impact of Project Templates

PM Function	NPD Challenge	Template Impact
Scope	Scope constantly under challenge from new market information.	Standard milestones provides for scope review.
Quality	Ensure critical functions are performed and can be audited.	Critical functions automatically included in each project plan.
Time	Continual pressure to shorten NPD cycle times.	Starting point for critical path crashing. Mechanism for applying lessons learned to future projects.
Cost	Manage development costs to maintain product margin; apply Design-To-Cost (DTC) methodology to meet unit/life cycle cost goals.	Common WBS (project-to-project) helps structure a cost forecasting database. Standard milestones to review progress against DTC goals.
Risk	Progressively less time to react to problems and more extreme measures required to solve them.	Standard milestones provided to review project status and risk management strategies.
Human Resources	Rapidly build an exceptionally multidisciplinary technical, business, and manufacturing team.	Common WBS, phases, and task descriptions are beneficial, especially in the forming stage.
Contract/Procurement	Synchronize supplier activities with the development cycle.	Key synchronizing activities automatically included in each project plan.
Communications	Clearly communicate progress and issues in a multiproject environment.	Provides stakeholders with a common yardstick for evaluating project progress and issues.

phases and major milestones makes it easier for stakeholders to visualize a project's status and contrast it with the status of other NPD efforts. If the firm has a formal stage/gate methodology, as described in other articles in this issue, this can also be built into the template.

Providing Focus for Process Improvement. Project templates support ongoing NPD process improvement efforts in two important ways. First, lessons learned on one project can be incorporated into the template, thus help-

ing to spread knowledge across a firm's project teams. Second, templates can help process improvement teams by describing current practices and serving as tools to evaluate the impact of alternative work flows.

Lessons Learned Developing Project Templates

I recently assisted a large manufacturer of health care products implement project templates for several classes of its products. Lessons learned during this experience are described below.

Gaining Top Management Commitment. Because a firm's NPD process is central to its operation and involves virtually all of its functional units, changing the process requires significant buy-in. In this instance, buy-in was aided when the firm's president made improving project management a corporate priority, with formal stage/gate reviews a key element of his implementation strategy.

Process Optimization and Validation. An early step in template development is accurately describing typical NPD tasks. In this instance, this was accomplished by having me work closely with a cross-functional employee team. Task information was captured in WBS format and project-to-project variations were noted. Results were documented in a WBS dictionary and in a series of network diagrams, which were then reviewed for accuracy and completeness. This approach also provided some immediate opportunities for process improvement.

Process improvement has also occurred since the first version of the template was rolled out, often by helping teams visualize activities that need further refinement. For example, certain prototype testing tasks have been broken into finer detail and more fully integrated with manufacturing scale-up activities, thus resulting in significant cycle time improvement.

Training NPD Project Managers and Teams. In the client's organization, it is not unusual for an NPD project team to grow from a core of four or five individuals to over 70, representing a wide range of disciplines and functional organizations. To help these teams form and norm efficiently, a case study-based training course was developed that makes extensive use of project templates.

In this course, templates are used to familiarize participants with activities and issues as products proceed from concept to launch. The participants then use templates as they work in simulated project teams, taking their case study projects through a series of classroom sessions stressing product definition, project planning, and risk management. Simulated state/gate reviews are conducted, with course participants given

the opportunity to sit on both sides of the table. Training results to date indicate that participants do indeed develop a better understanding of their project roles, as well as a better grasp of the big picture.

Portfolio Optimization. The firm has formalized the use of the Product-Market Description (PMD) as a scope management tool for each NPD project. A PMD is typically just a few pages long, describing critical product and market requirements, along with major project issues and product positioning strategies. The PMD concept is firmly rooted in the firm's project templates:

- Early tasks in the template are designed to produce information needed to prepare the PMD.
- The first review gate is designed to review the product concept described by the PMD.
- The timing of product specifications, test plans, and other planning activities in the template are dependent on formal approval of the PMD.
- The PMD is used to manage project scope changes and review progress at subsequent gate reviews described by the template.

The collection of a business unit's PMDs has also proven useful in managing the overall NPD "investment portfolio" because comparison between product concepts and market positioning can readily be made.

Template Trends

The move toward more flexible, distributed, and empowered NPD project teams, coupled with the availability of groupware-based project management systems, could soon expand the content and utility of project templates.

An early view of this trend can be seen in a new project management product that combines a popular project management software tool with a well-known groupware tool. This product expands the template concept to include references and standards associated with each

project activity. The product also capitalizes on the increased levels of understanding developed by repeated template use; team effectiveness is increased by having members share status information and intermediate deliverables on-line.

Conclusions

As we have seen, project templates benefit firms and their NPD teams by providing a common process understanding, a platform for process improvement, and a foundation for project oversight and risk management.

Template development and application both require careful attention. Development requires management buy-in, as well as effective cross-functional par-

ticipation. Successful application involves both discipline and flexibility. Discipline is needed to implement standards across project teams, while flexibility is needed to let the standard be tailored to the specific needs of each project. Together, discipline and flexibility allow an organization to gain the benefits of NPD process standardization, while encouraging the creativity that is essential to successful NPD projects and long-term process improvement. ■

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