Week 5

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Developing a Project Management Methodology

Some organizations spend a great deal of time and money on training efforts for general project management skills, but after the training, a project manager might still not know how to tailor their project management skills to the organization's particular needs. Because of this problem, some organizations develop their own internal project management methodologies. The PMBOK® Guide is a standard that describes best practices for what should be done to manage a project. A methodology describes how things should be done. Besides using the PMBOK® Guide as a basis for a project management methodology, many organizations use others, such as the following:

PRojects IN Controlled Environments (PRINCE2) :
Originally developed for information technology projects, PRINCE2 was released in 1996 as a generic project management methodology by the U.K. Office of Government Commerce (OCG). It is the de facto standard in the U.K. and is used in over 50 countries. PRINCE2 defines 45 separate subprocesses and organizes these into eight process groups as follows:
1. Starting Up a Project
2. Planning
3. Initiating a Project
4. Directing a Project
5. Controlling a Stage
6. Managing Product Delivery
7. Managing Stage Boundaries
8. Closing a Project

Rational Unified Process (RUP) framework:
RUP is an iterative software development process that focuses on team productivity and delivers software best practices to all team members. According to RUP expert Bill Cottrell, "RUP embodies industry-standard management and technical methods and techniques to provide a software engineering process particularly suited to creating and maintaining component based software system solutions."[2]

Six Sigma:
 Many organizations have projects underway that use Six Sigma methodologies. The work of many project quality experts contributed to the development of today's Six Sigma principles. In their book, The Six Sigma Way, authors Peter Pande, Robert Neuman, and Roland Cavanagh define Six Sigma as "a comprehensive and flexible system for achieving, sustaining and maximizing business success. Six Sigma is uniquely driven by close understanding of customer needs, disciplined use of facts, data, and statistical analysis, and

diligent attention to managing, improving, and reinventing business processes."3 Six Sigma's target for perfection is the achievement of no more than 3.4 defects, errors, or mistakes per million opportunities. The two main methodologies used on Six Sigma projects: DMAIC (Define, Measure, Analyze, Improve, and Control) is used to improve an existing business process, and DMADV (Define, Measure, Analyze, Design, and Verify) is used to create new product or process designs to achieve predictable, defect-free performance. (See websites like www.isixsigma.com for more information.)

Agile: Many software development projects use agile methods, meaning they use an iterative workflow and incremental delivery of software in short iterations. Popular agile approaches include Scrum, extreme programming, feature driven development, and lean software development. In 2011, PMI introduced a new certification called Agile Certified Practitioner (ACP) to address the growing interest in agile project management. See the following section for more information on agile project management. Note that agile can also be applied to project planning, as described in Chapter 2, as well as many other areas, including manufacturing and even education.

Many organizations tailor a standard or methodology to meet their unique needs. For example, if organizations use the PMBOK® Guide as the basis for their project management methodology, they still have to do a fair amount of work to adapt it to their work environment.

PROJECT CHARTER:
- Project purpose
- Measureable project objectives and related success criteria
- High-level requirements
- High-level project description, boundaries, and key deliverables
- Overall project risk
- Summary milestone schedule
- Preapproved financial resources
- Key stakeholder list
- Project approval requirements (i.e., what constitutes project success, who decides the project is successful, and who signs off on the project)
- Project exit criteria (i.e., what are the conditions to be met to close or to cancel the project or phase)
- Assigned project manager, responsibility, and authority level
- Name and authority of the sponsor or other person(s)

authorizing the project charter

Agile Project Management

As described in the previous section on project planning, agile means "able to move quickly and easily." It is also a popular software development methodology. Early software development projects used a waterfall approach, where requirements were defined in detail before any software was written. This approach works when requirements are stable, but as the rate of change of business and technology increased, this approach became unrealistic for many projects. In response to the need to improve the process, a group of 17 people

(called the Agile Alliance) developed the Manifesto for Agile Software Development in 2001, as follows:

Manifesto for Agile Software Development
We are uncovering better ways of developing
software by doing it and helping others do it.
Through this work we have come to value:
Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan
That is, while there is value in the items on
the right, we value the items on the left more.6

Organizations that implement agile are responsible for interpreting and applying these values. Some people associate agile with specific techniques, such as Scrum. Scrum is the leading agile development method for completing projects with a complex, innovative scope of work. The term was coined in 1986 in a Harvard Business Review study that compared high-performing, crossfunctional teams to the scrum formation used by rugby teams. The basic Scrum framework is summarized in the following list and illustrated in Figure 3-6:

Figure 3-6. Scrum framework (Schwalbe Information Technology Project Management, Revised Seventh Edition, 2014)

A textual description of the Scrum framework follows:

A product owner creates a prioritized wish list called a product backlog.

During sprint planning, the team pulls a small chunk from the top of that wish list, a sprint backlog, and decides how to implement those pieces.

The team has a certain amount of time — a sprint (usually two to four weeks) — to complete its work, but it meets each day to assess its progress (daily Scrum).

Along the way, the ScrumMaster keeps the team focused on its goal.

At the end of the sprint, the work should be potentially shippable: ready to hand to a customer, put on a store shelf, or show to a stakeholder.

The sprint ends with a sprint review and retrospective.

As the next sprint begins, the team chooses another chunk of the product backlog and begins working again.

The cycle repeats until enough items in the product backlog have been completed, the budget is depleted, or a deadline arrives. Which of these milestones marks the end of the work is entirely specific to the project. No matter which impetus stops work, Scrum ensures that the most valuable work has been completed when the project ends.7

Today many types of projects use Scrum to help focus on teamwork, complete the most important work first, and add business value. See the Video Highlights describing work done by Wikispeed volunteers, for example. One could view agile and the Scrum framework as methods that simply break down a big project into several smaller projects, defining the scope for each one. Project teams can have brief meetings each day to decide how to get the most important work done first without calling the meetings "scrums." As stated earlier in this chapter, several different methods are available for managing projects. Because projects are unique, someone must decide what processes are needed and how they should be performed. Project teams can follow one specific process, a

hybrid of several, or their own customized approach.

The Importance of Top Management Commitment
Without top management commitment, many projects will fail. Some projects have a senior manager called a champion who acts as a key proponent for a project. Projects are part of the larger organizational environment, and many factors that might affect a project are out of the project manager's control. Top management commitment is crucial for the following reasons:
- Project managers need adequate resources. The best way to hurt a project is to withhold the required money, human resources, and/or visibility for the project. If project managers have top management commitment, they will also have adequate resources and can focus on completing their specific projects.
- Project managers often require approval for unique project needs in a timely manner. For example, a project team might encounter unexpected issues and need additional resources halfway through the project, or the project manager might need to offer special pay and benefits to attract and retain key project personnel. With top management commitment, project managers can meet these specific needs in a timely manner.
- Project managers must have cooperation from people in other parts of the organization. Because most projects cut across functional areas, top management must help project managers deal with the political issues that often arise in these types of situations. If certain functional managers are not responding to project managers' requests for necessary information, top management must step in to encourage the functional managers to cooperate.
- Project managers often need someone to mentor them to improve their leadership skills. Many project managers come from technical positions and are inexperienced as leaders. Senior managers should take the time to pass on advice on how to be good leaders. They should encourage new project managers to take classes to develop leadership skills and allocate the time and funds for them to do so.

The Need for Organizational Standards
Another deficiency in most organizations is the lack of standards or guidelines to follow that could help in performing project management functions. These standards or guidelines might be as simple as providing standard forms or templates for common project documents, examples of good project documentation, or guidelines on how the project manager should perform certain activities, such as holding a kickoff meeting or providing status information. Providing status information might seem like common sense to senior managers, but many new project managers have never given a project status report and are not used to communicating with a wide variety of project stakeholders. Top management must support the development of these standards and guidelines and encourage or even enforce their use.
Some organizations invest heavily in project management by creating a project management office or center of excellence. A project management office (PMO) is an organizational entity created to assist project managers in achieving project goals. Some organizations develop career paths for project

managers. Some require that all project managers have some type of project management certification and that all employees have some type of project management training. The implementation of all of these standards demonstrates an organization's commitment to project management and helps ensure project success.