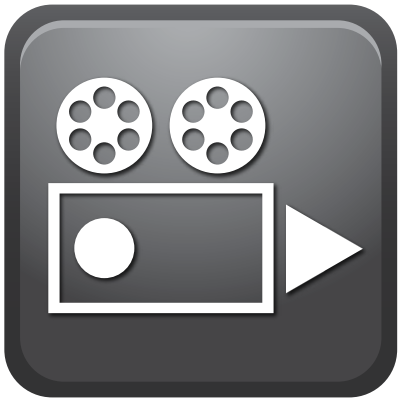
CHAPTER 14 MANAGING PROJECTS

CASE 2

NASA Project Management Challenges



SUMMARY NASA project managers discuss the key elements of successful project management, and their experience leading NASA projects over the last thirty years.

NASA Project Management Challenge 2008

URL http://www.youtube.com/watch?v=3yERUM9k7aE; L= 8:57.

CASE Project management (PM) is the discipline of planning, organizing and managing resources to bring about the successful completion of specific project goals and objectives. The discipline of project management has a short history, beginning in the late 19th century in the United States with the emergence of the first large-scale industrial factories in the form of steel mills. Since then, the discipline has evolved into a professional endeavor, with practitioners usually obtaining certificates in project management. The Project Management Institute (PMI) is the largest professional project management association in the U.S.

A project is a finite endeavor (having specific start and completion dates) undertaken to create a unique product or service which brings about beneficial change or added value. This finite characteristic of projects stands in sharp contrast to business processes, or operations, which are permanent or semi-permanent functional work to repetitively produce the same product or service. Process managers are not the same as project managers. PMs are given the task to achieve a specific outcome or process. Process managers are expected to operate and maintain what the PMs deliver.

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The primary challenge of project management is to achieve all of the project goals and objectives while honoring the project constraints. Typical constraints are scope, time, cost and quality. The secondary and more ambitious challenge is to optimize the allocation and integration of inputs necessary to meet pre-defined objectives. Project management is also concerned with risk and the mitigation of risk. Each of the following four objectives carries risk of failure (see table below):

PROJECT MANAGEMENT CONSTRAINTS, RISKS, AND MITIGATION EFFORTS

PROJECT CONSTRAINTS	RISKS	MITIGATION EFFORTS
Scope	Project creep and unregulated growth in the mission	Continuous oversight in the initial stages to ensure focus on original objectives. Defend project against external expansion forces.
Time	Project deadlines slipping, jeopardizing the overall completion date	Attention to intermediate deadlines and avoidance of slippage. Identify sources of slippage. Repair. Add resources where needed.
Cost	Cost overruns become routine, threatening overall budget	Identify cost increase sources; search for lower cost resources.
Quality	Quality standards reduced because of other constraints; final product not reliable	Clear quantifiable quality standards; identify sources of quality shortfall. Repair. Consider adding resources.

A Project Management Framework for Information Systems

There are hundreds of different project management frameworks, some for specific industries. One that is commonly used in the information systems field is the Program Investment Life Cycle (PILC). This model merges traditional project manager concerns with constraints like time, budget, and cost, with the traditional systems development life cycle approach to system development.

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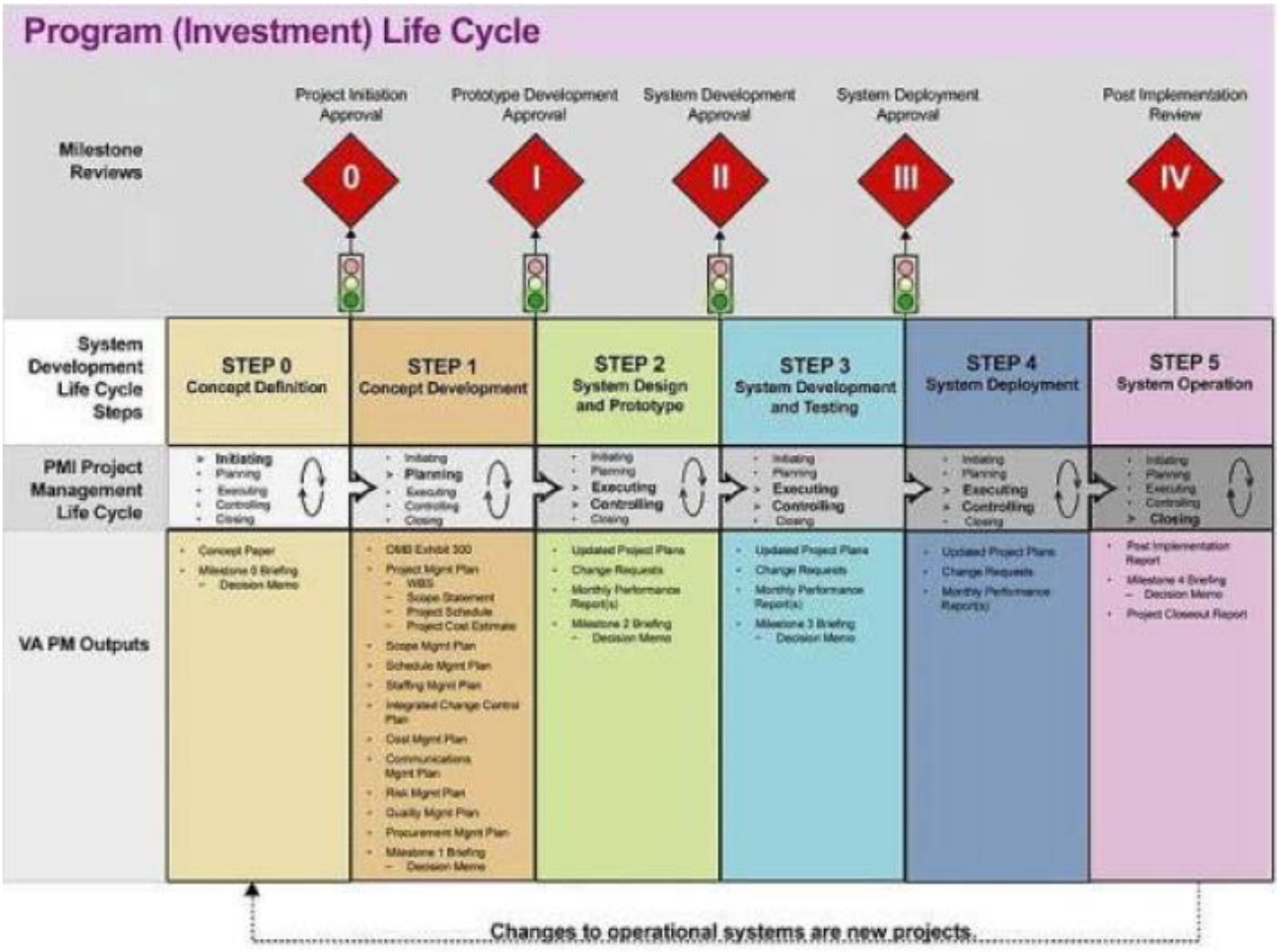

"The Program (Investment) Life Cycle integrates the project management and system development life cycles with the activities directly associated with system deployment and operation. By design, system operation management and related activities occur after the project is complete and are not documented within this guide."

Project Control Variables

Project Management tries to gain control over risks and to deliver the project within time, scope, budget, and quality constraints. To properly control these variables a good project manager has a depth of knowledge and experience in these four areas (time, cost, scope, and quality), and in six other areas as well: integration, communication, human resources, quality assurance, schedule development, and procurement.

The traditional project management literature is weak on describing the personal qualities of good project managers—leadership, passion, and the commitment of individuals who

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make up project teams. It is also weak on identifying the qualities of individuals needed as a prerequisite of any project management framework. Ultimately, people get the work done, not frameworks. Among the qualities of individuals needed to make teams work are competence, passion, commitment, and ability to work with others (collaborate). None of the formal project management frameworks deal with these critical issues. The NASA video will help you understand just how important these factors can be.

VIDEO CASE QUESTIONS

1. Why are individuals so important to the NASA project teams?
2. What is the Lessons Learned Program and how might it relate to better project management at NASA?
3. Why is individual accountability so important for managing risks in NASA projects? Doesn't the team shoulder the responsibility for achieving success?
4. What are the key competencies of a good project manager according to the NASA managers?
5. Is "leadership" the same as being a good project manager?
6. What does leadership integrity have to do with the success of a project?