

BIOGRAPHICAL INFORMATION

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SPECIFIC RESPONSIBILITIES

As a Project Management Professional skilled in project management best practices, Ms. Dozier manages full life-cycle implementations of software projects involving Geographic Information Systems and eBusiness technologies. She is the Denver representative for the Idea Integration Corporate Project Management Office. Ms. Dozier joined Idea Integration in 2000.

PAST EXPERIENCE

Ms. Dozier has over 19 years of GIS/Mapping Project and Product Management experience serving both the private and public sectors. She has managed development projects for traditional commercial mapping software providers (Intergraph Corporation) as well as innovative technology projects for start-up initiatives (Digital Globe, Cartica Corporation). Ms Dozier has strong skills in project evaluation, definition, and management. Her consulting experience ranges from strategic business process analysis to project planning and implementation, process definition and process improvement, systems analysis, product marketing, and product certification and testing. Ms. Dozier possesses strong organizational, interpersonal, and communication skills and has proven success in team building, staff development and motivation.

EDUCATION INFORMATION

Austin Peay State University, Clarksville, TN
Project Management Institute

Geology
PMP (PMI Certification)

PROFESSIONAL MEMBERSHIPS

Project Management Institute

Project Methodology: Critical Element in Project Success

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ABSTRACT

The application of project management is recognized as contributing to successful GIS and information technology projects. Projects that may otherwise languish during implementation finish on-time and on-budget or the reasons for changes in time and budget are known and approved in advance of their occurrence. The completion of projects on-time and on-budget, or with approved variances, results from the use of project management principles. Project management provides defined processes for planning projects, for initiating projects, and for executing project tasks. Defined processes exist for controlling and monitoring project progress as well as for closing projects upon completion. These processes alone will not result in well-managed projects that meet or exceed management's expectations for project performance. Project Methodology provides the essential framework in which to manage and execute a project.

INTRODUCTION TO METHODOLOGY

The most effective project managers know the key to success can be found in the methodology they apply to managing their projects. Methodology is formally defined as “a body of practices, procedures, and rules used by those who work in a discipline or engage in an inquiry”⁷. Project Managers must avail themselves of such tools to effectively manage initiatives for which they are responsible. The reasons to take advantage of a methodology for managing projects are quite compelling. The Software Engineering Institute (SEI) is a federally funded research and development center whose core purpose is to help others make measured improvements in their software engineering capabilities. SEI attests that firms that employ a *consistent approach* to managing projects can perform projects at 75% less cost than firms having no such approach. This reference to an *approach* equates to project management methodology.

Establishing consistent project management methodology is essential to the long-term success of any organization. Methodology provides the essential guidebook for new project managers and the key to repeatable success for project management veterans. According to The Hackett Group, use of a methodology is at least partially attributed to the greater success of front-runners in the Information Technology space, allowing firms to accomplish more with fewer resources. Consider that 90% of the world-class organizations utilize a common methodology for all projects, while only 56% of average IT organizations employ such approaches. Comparisons of IT costs expended per end-user shows that world-class firms

⁷ Houghton Mifflin Company. “The American Heritage® Dictionary of the English Language, Fourth Edition Copyright©2000”. Houghton Mifflin Company. Accessed 25 October 2004. <<http://www.dictionary.com>>.

expend \$8,686 while average firms expend \$10,532⁷. In today's business climate, who couldn't benefit by accomplishing more with less?

PROJECT PROCESSES AS DEFINED BY PMI

Project Management Institute (PMI) is the world's leading not-for-profit project management professional association. PMI is recognized as the global leader in developing standards for the practice of the project management profession. Within its premiere standards document, A Guide to the Project Management Body of Knowledge (PMBOK® Guide), PMI defines both project management process groups and knowledge areas but not a specific methodology for utilizing them. The project process groups are essential components of any effective methodology.

PMI recognizes five project process groups. The **Initiating** process recognizes that a project should begin and that resources should be committed to it. **Planning** processes involve devising and maintaining a workable scheme to accomplish the project objectives. The actual work of the project is carried out within the **Executing** processes, during which people and other resources are coordinated to implement the project plan. **Controlling** processes are those that monitor, measure, and take corrective action when necessary to ensure project objectives are met. These forward-looking processes focus on influencing future results rather than fixing past mistakes. Often overlooked are **Closing** processes that formalize project acceptance and bring it to an end. Significant historical information about the project is generated during this process group.

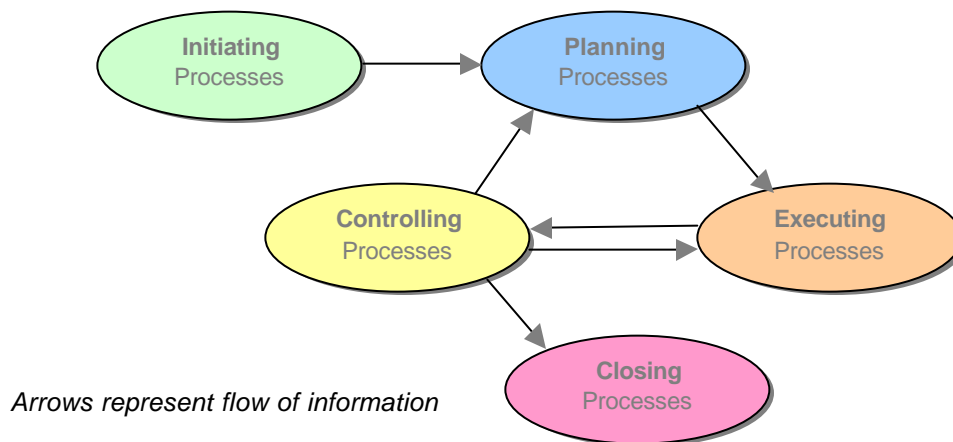


Figure 1. Interrelationships Between Process Groups

⁷ Dan Goldfischer, PM Network (Pennsylvania: Project Management Institute, 2004), 8

Activities flow from and between the process groups, always beginning with Initiation. Work begins following project planning activities. During execution, the project is monitored constantly and often refined during a return to the planning processes. This “progressive elaboration”, or refinement over time, is common during the life of a project. Final evaluations trigger closing processes, as project completion draw near.

PROJECT MANAGEMENT METHODOLOGY

A methodology is usually unique within a discipline. Idea Integration (Idea) developed the RoadMap™ Family of Methodologies for implementing information technology solutions. Idea is a technology solutions provider specializing in Web design and development, information management solutions, wireless workflow applications, portal solutions, and enterprise resource management. Idea teams have applied RoadMap to many successful GIS and IT projects. The Idea RoadMap Methodology consists of Framework, Process Methods, and Practice Methods.

Framework

The methodology framework breaks the project life cycle down to six distinct phases:

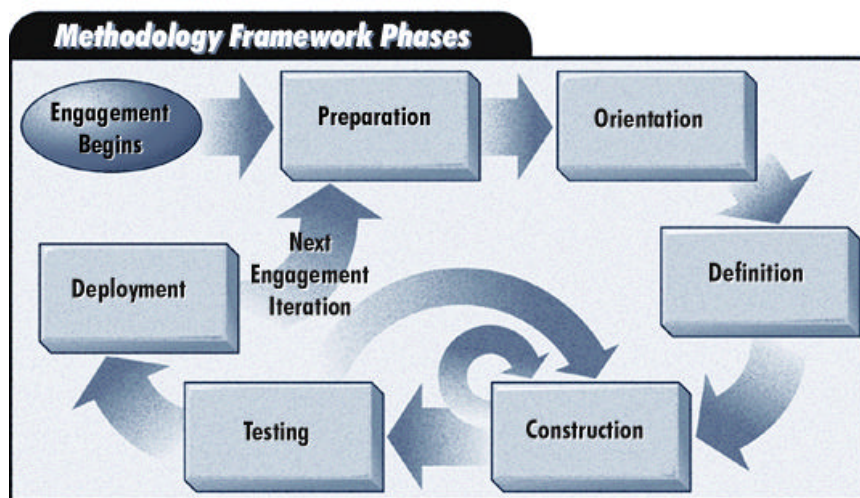


Figure 2. RoadMap Methodology Framework

Specific phases are used to organize the activities that occur within the project

- Preparation: Project initiation, startup and planning activities
- Orientation: Project kickoff, vision and feasibility
- Definition: Functional requirements and modeling
- Construction: Detailed design and application building
- Testing: Application through acceptance testing
- Deployment: Production rollout and follow-up

All phases of a full life cycle, from the initial vision through system deployment, are considered for every project, although all phases may not apply to every project. The implementation approach is tailored with the phases that are appropriate to the engagement. In addition, the potential for iterations both within and across phases must be incorporated within the Framework.

Process and Practice Methods

The Process Methods provide procedural and structural support for each engagement. These Methods are closely aligned with the goals and structure of the Capability Maturity Model of the Software Engineering Institute. The procedures span the phases of the Framework to provide management guidelines for GIS and IT projects.

The Practice Methods provide guidance in delivering an engagement based on the specific Practice area. Practice Methods are based on the 'Best Practices' of Idea practitioners and generally accepted Industry 'Best Practices'. The Methods include activities defining specific steps for each Phase, reference points to the Process Methods for each Phase, specialized techniques and sample artifacts (deliverables and templates).

PRACTICAL APPLICATION SPELLS SUCCESS FOR GEORGIA TRANSMISSION

Georgia Transmission Corporation (GTC) is a not-for-profit cooperative owned by and serving 39 electric memberships corporations in Georgia. In 2001, Idea Integration teamed with Photo Science, the primary GIS contractor for GTC, to create a web-based application that would allow GTC to exploit their wealth of geographic information, including orthophotography, parcel data, and systems data for the state of Georgia. This ArcIMS Web application called GTCView provides browser-based user access to information. Because it provides seamless access not only to geographic information but also to attribute information resident in 4 separate relational databases, GTCView has become an integral tool for the employees at GTC.

In 2002, GTC desired a technology upgrade from using shapefiles as a means of storing and displaying geographic information to using ArcSDE and Oracle. The Idea RoadMap was applied to this project. This system enhancement project was actually composed of three separate initiatives. GTC chose to execute these smaller phases with decision points at the end of each as a means of exerting greater control over their project dollars. The GTC GIS Operations Manager deemed this project a "great success" because it was delivered within the original schedule, scope, and budgetary constraints.

The joint project team was comprised of stakeholders, sponsors, business analysts, and system administrators from GTC; GIS specialists from Photo Science; and a technical architect and technical consultants from Idea. A Project Manager from Idea managed the project.

Three Initiatives, One Methodology

This system enhancement project was composed of a business analysis effort, a project planning exercise, and finally a system implementation initiative. All activities were managed within the RoadMap methodology.

GTC required a business case analysis to validate a migration to ArcSDE/Oracle as a viable direction for the company. A thorough review and evaluation of the Business Case Analysis

report was conducted upon delivery of the report, and GTC made an informed decision to proceed with the migration.

GTC demanded a separate and distinct planning effort, dedicated to defining the complete work breakdown structure (WBS) for the project. These planning activities were conducted during the Preparation Phase. This was critical to the overall success of the project because it placed such a strong emphasis on the creation of a solid WBS from which to drive the project. All team members contributed to the definition of all activities associated with the implementation effort. The project manager worked with the team to identify key relationships between the tasks to support proper activity sequencing. Individual team members subsequently provided time estimates for the activities for which each would be responsible. It is considered “best practice” to engage experts to define both activities and the time estimates for those activities. Experts are team members who have participated in similar projects in the past that can contribute past experiences to the planning process. The planning effort, which occurred in the Orientation Phase, culminated in the kickoff of the implementation initiative. The project kick-off typically signifies the beginning of activities in the execution process group.

The implementation initiative included the majority of phases from the RoadMap. During the Definition Phase the team identified functional requirements for data migration as well as for necessary GTCView software modifications that would be necessary to support data from an ArcSDE/Oracle data repository. GTC delivered new server hardware to the Idea offices at the onset of the Construction Phase. Technical consultants created detailed design documents during the initial Construction Phase; once these documents were reviewed and accepted by GTC, the technical consultants began data migration and software modifications. During the Testing Phase, technical consultants conducted unit testing and data verification before delivering a server containing the data and the new application to GTC for acceptance testing. During Deployment, technical consultants conducted knowledge transfer sessions with GTC team members, enabling them to take complete ownership of the system that had been built for them from their specifications.

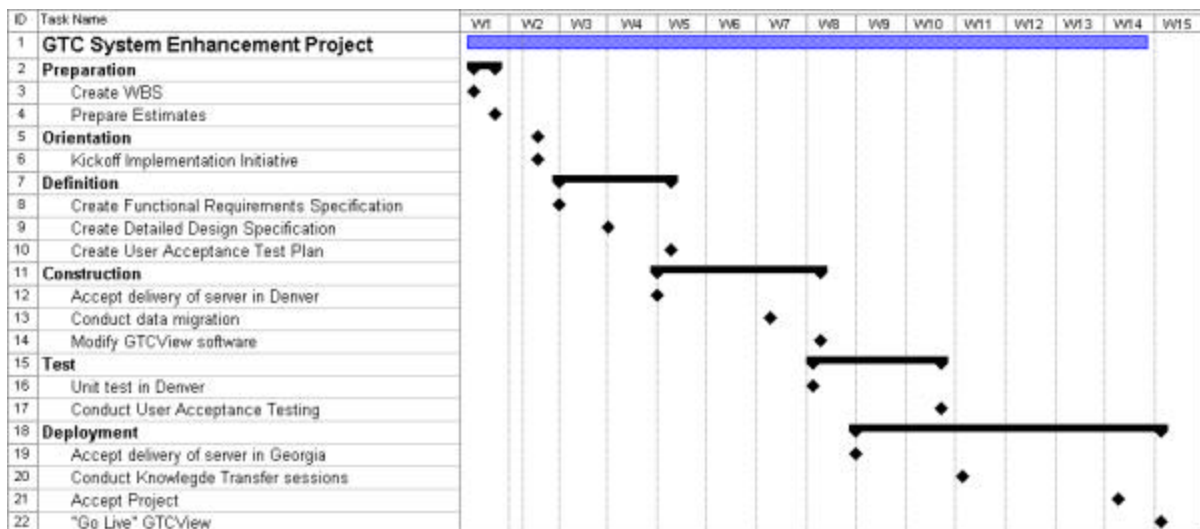


Figure 3. GTC System Enhancement Project Gantt Chart

A sampling of activities from the GTC System Enhancement Project illustrates that activities characterized as belonging to some or all of the Process Groups may occur during each phase in the RoadMap methodology. A review of the activities and associated process groups reinforces the circular relationship between the Planning, Executing, and Controlling processes. Activities from the Controlling Process Group precede those from the Closing process group thus forcing a conscious transition from one Roadmap phase to another. For example, it is not possible to begin the Construction phase unless through an examination of the exit criteria it is revealed that all exit criteria for the Definition Phase have been satisfied. GTC's acceptance of the Requirements Specifications document was one such criterion for exiting the Definition Phase and beginning the Construction Phase.

Methodology	Activity	Process
Preparation	Initiate project	Initiating
	Create WBS	Planning
Orientation	Conduct kick-off meeting	Execution
	Define and review change-management procedures	Planning
	Conduct meetings, prepare meeting minutes	Controlling
Definition	Complete Requirements Specification documents	Executing
	Refine work breakdown structure (as necessary)	Planning
	Prepare project progress report	Controlling
	Evaluate criteria for transitioning to next phase	Closing
Construction	Create and approve Functional Specification document	Executing
	Refine work breakdown structure (as necessary)	Planning
	Modify application source code	Executing
	Evaluate criteria for transitioning to next phase	Closing
	Prepare project progress report	Controlling
Test	Refine work breakdown structure (as necessary)	Planning
	Execute integration, acceptance testing	Executing
	Prepare project progress report	Controlling
Deployment	Install/deploy system	Executing
	Verify all requirements have been satisfied	Controlling
	Initiate project closure activities	Closing

Figure 4. Subset of Project Activities Characterized by Process Group

AVOIDING COMMON PROJECT PITFALLS

A well-documented and defined methodology is your most effective tool for avoiding common project pitfalls, primarily those associated with the project scope, schedule, and budget. The relationship that exists between Scope, Time, and Cost is referred to as the Triple Constraint, or Iron Triangle, because a change in any one of the three will have a definite impact on the other variables. Change is not a four-letter word for a project; however, UNCONTROLLED change is an evil to be avoided. Uncontrolled change is one of the main contributors to project failure. A change in scope, no matter how small, must always be evaluated to determine the impact its inclusion may have on the project schedule. An increase in project schedule typically results in an increase in project costs. Conducting

proper evaluation of any changes to the Iron Triangle generates valuable information that should be used to determine how to proceed with regard to that change.