

How to do Business Better...
with Project Management Skills
Revisited...

By

Robert P. Mills, PE, PMP, MCPM

12-04-2008

Project Management is Everywhere



Introduction

- It would be an understatement to say that much of our daily lives depends on technology. Even the good old paper “to do list” has evolved into electronic personal information managers and handheld personal digital assistants (PDAs).
- But have these tools made us any better at planning, communicating and getting things done?
- **Hello, I’m Robert Mills of RPM & Associates**
- Looking at this issue on a larger scale, even companies with the latest software tools are finding that initiating and following through on long term projects are still filled with obstacles.
- Today we will take a closer look at why this is still happening in the age of information and learn what new tools are available to help.

Introduction (2)

- Sometimes to go forward, one has to look back. Companies today, more than ever, are finding that remaining competitive in a fast pace market place requires accomplishing projects and completing them on time and on budget. And there is no miracle technology that will make that happen.
- Today we will take a look at some of the problems organizations have and the new tools and methods available to make their projects more effective.

Project Management a Proven Practice

Project management has been around for a long time, 50 to 5000 years in some industries. As a modern management practice, Project Management evolved out of WW II and US DOD projects.

- Projects have required organizations to break the existing functional boundaries and find new ways to accomplish complex work.
- Resources from a variety of skill areas had to be drawn together toward a common goal.
- Objectives were carefully outlined, including performance criteria, schedules, and budgets
- Is there a particular reason why project management has become such an important current topic in business today?

Why Project Management?

- Project Management makes money

That's the heart of it. For all of the potential posturing, all of the arguments over the leverage that PM may or may not afford an organization, **PM makes money.**

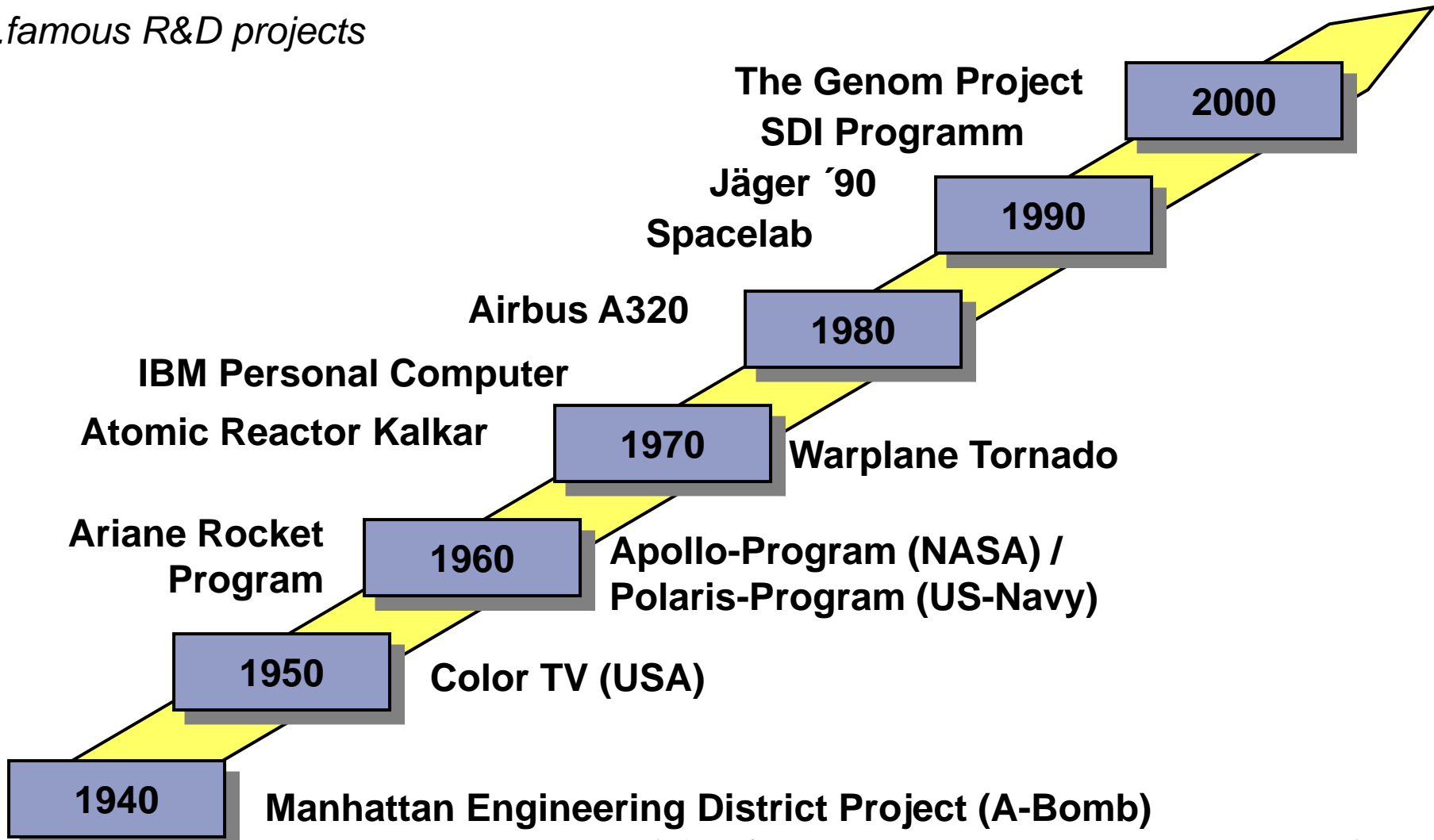
- There is measureable evidence that the principles of consistent leadership, excellent personnel selection, clear objectives, disciplined practices and staff, and consistency are the cornerstones of taking businesses from good performance to long-term great financial performance.

The Foundations Were Set For Modern Project Management.

- During the past 50 years, more public and private organizations have embraced Project Management.
- The Construction industry was among the earliest to take on the trappings of modern project management with network diagrams, WBS, Gantt Charts.
- Other major sectors of commerce also came in the first wave, including the Aerospace and Pharmaceuticals industries.
- As project management technology became more refined, other types of business joined in the practice, ranging from technology firms to the telecom industry.
- With ongoing refinement of project management tools, few business sectors are untouched by Project Management.

Project Management History

...famous R&D projects





What is a Project?

Projects are a sequence of inter-related activities and tasks that:

- Have a specific objective to be completed within certain specifications
- Have defined start and end dates
- Have funding limits (if applicable)
- Consume human and nonhuman resources (i.e. money, people, equipment)
- Are multifunctional (ie, cut across several functional lines)



What is Project Management?

Project management brings together and optimizes the resources necessary to successfully complete the project.

- The application of knowledge, skills, tools and techniques to project activities to meet project requirements.
- Techniques based on the accepted principals of management used for planning, estimating, and controlling work activities to reach a desired end result on time, within budget, and according to specification.
- Accomplished through the application and integration of five project management process groups
 - Initiating
 - Planning
 - Executing
 - Monitoring and control
 - Closing



Who is a Project Manager?

The person responsible for accomplishing the project objectives.

- Managing a project includes
 - Identifying requirements
 - Establishing clear & achievable objectives
 - Balancing the competing demands for quality, scope, time and cost
 - Adapting the specifications, plans, and approach to different concerns & expectations of stakeholders.

**This is the Burj Al Arab, the only 7 stars hotel
in the world, it was built in only 18 months...
And opened its doors in 2003.....**





Project Management vs. Operations Management Principles.

Project Management

- focuses on a project with a finite life span
- projects frequently need resources on a part-time basis

Operations Management

- Ongoing and repetitive
- Expect to exist indefinitely
- Permanent organizations try to utilize resources full-time

A Process

- is a series of steps which a particular function is routinely performed

A Program

- is a group of projects managed in a coordinated way to obtain the benefits and control not available from managing them individually.



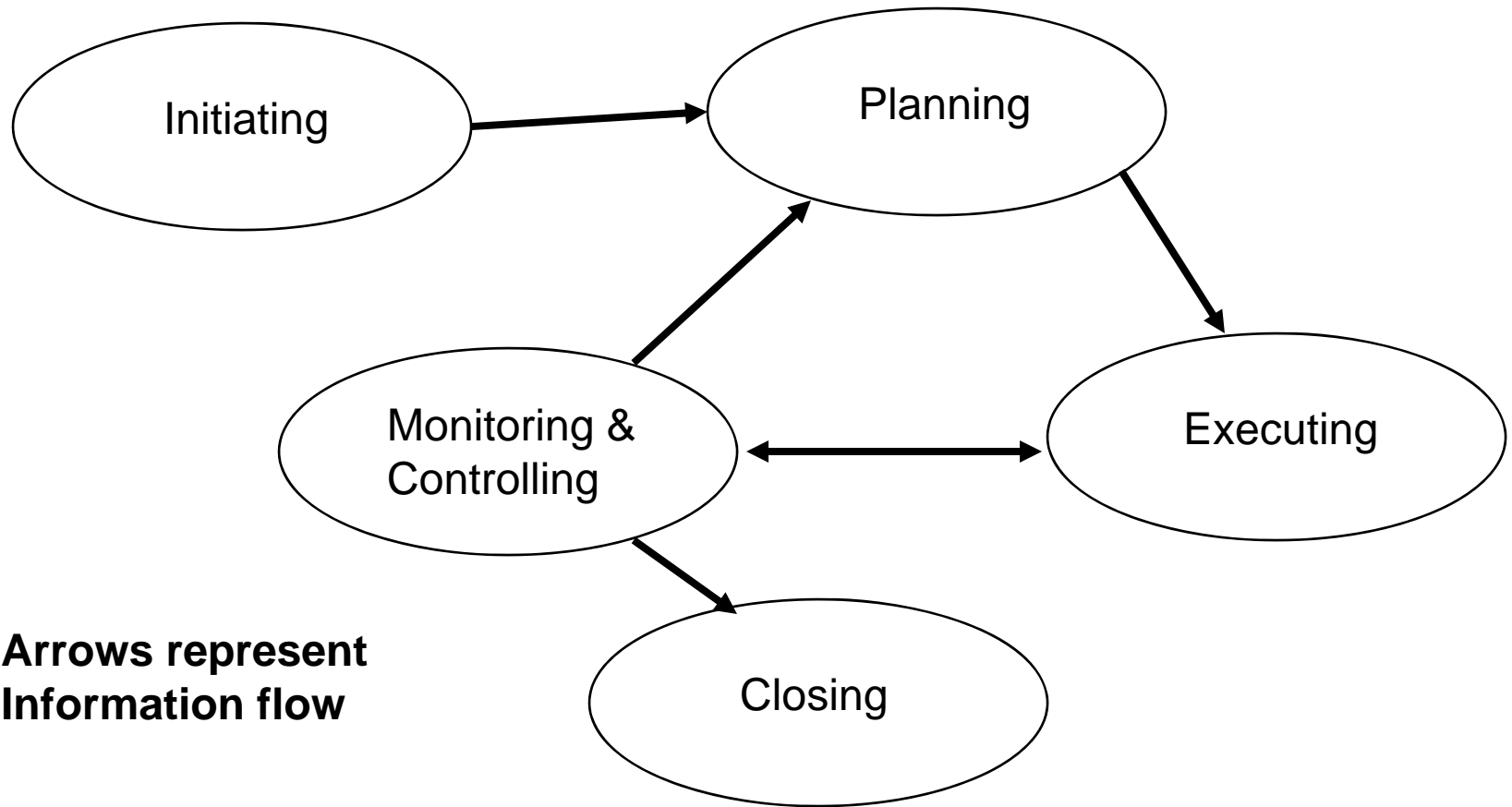
Project Phases & Life Cycle

- Projects are usually divided into ***project phases or project groups*** to improve project control
- Collectively, the project phases are known as the ***project life cycle {cradle to grave...}***
- Each ***project phase or project group*** is marked by completion of one or more ***deliverables***

Process Groups

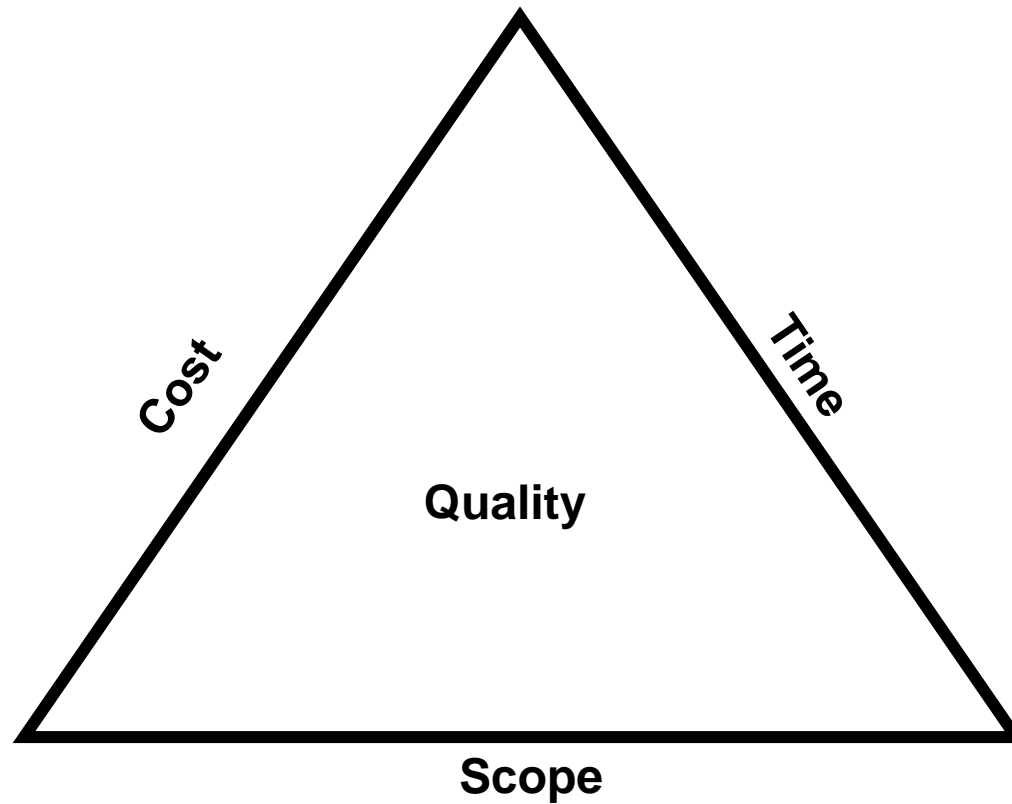
1. **Initiating Process Group.** Defines and authorizes the project or project phase.
2. **Planning Process Group.** Defines and refines objectives, and plans the course of action required to attain the objectives and scope that the project was undertaken to address.
3. **Executing Process Group.** Integrates people and other resources to carry out the project management plan for the project.
4. **Controlling & Monitoring Process Group.** Regularly measures and monitors progress to identify variances from the project management plan so that corrective action can be taken when necessary to meet project objectives.
5. **Closing Process Group.** Formalizes acceptance of the product, service or result and brings the project or a project phase to an orderly end.

Process Groups



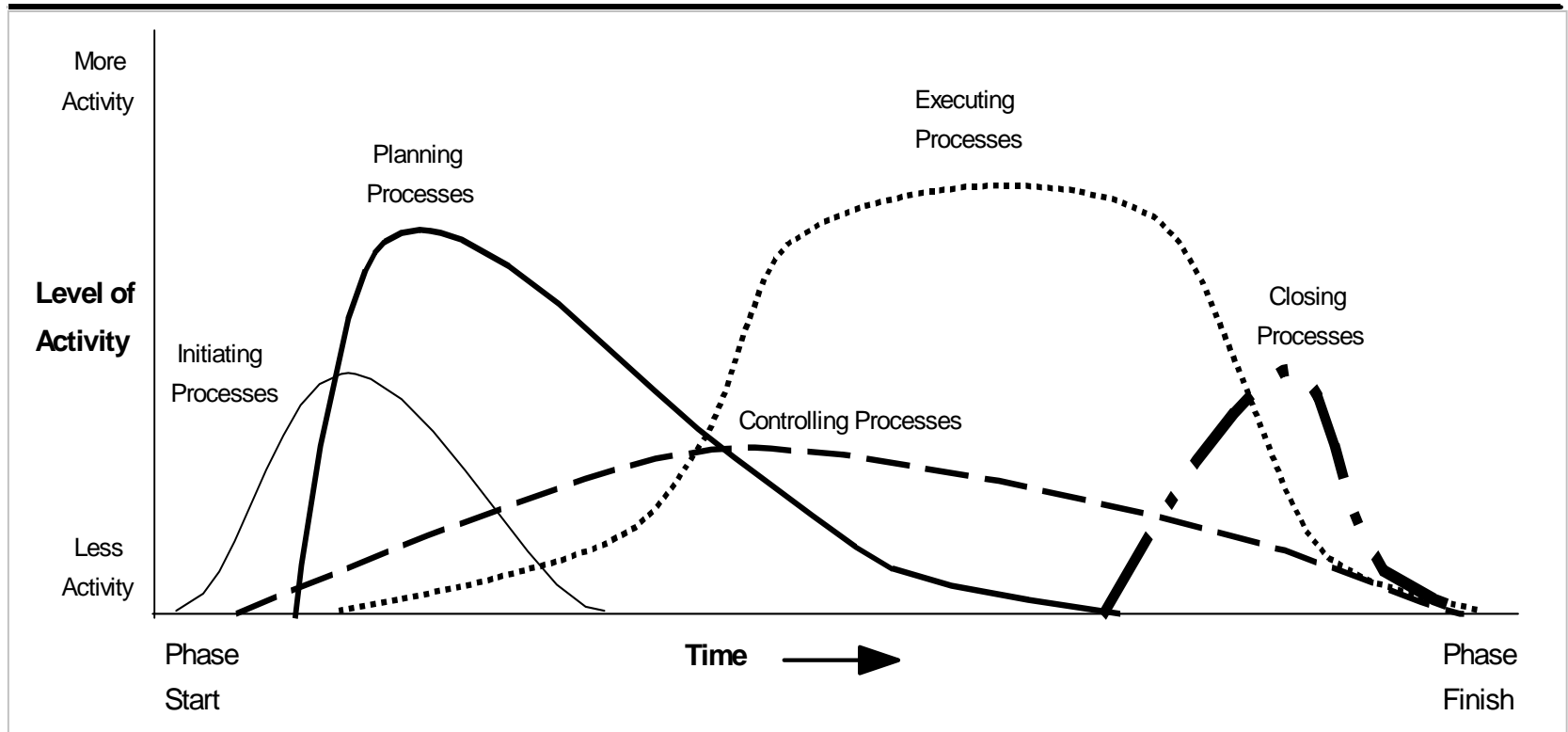


Triple Constraint





Overlap of Process Groups Within a Phase




1

Initiating

Who Initiates Projects & Why are they done?

- Stakeholders (sponsor) are typically responsible for initiating a project
- Depends on who authorized the project
- Typical reasons why projects are initiated:
 - Market demand
 - Organizational need
 - Customer request
 - Technological advance
 - Legal requirement



Getting Under Way / Initiating the Project

- Select a Project from a list of possible projects
- Select a Project Manager
- Determine the authority of Project Manager
- Collect processes, procedures, & historical information.
- Divide large projects into phases
- Identify **ALL** stakeholders
- Turn stakeholder wants, needs, & expectations into requirements
- Document business needs
- Document assumptions and constraints
- Ensure the product scope is as final as possible
- Determine company culture & existing systems
- Determine project objectives & product objectives
- Facilitate resolution to conflicting objectives
- **Develop project charter**
- **Develop preliminary project scope statement**



Stakeholders

Project stakeholders are individuals or organizations that are actively involved in the project, or whose interest may be positively or negatively affected as a result of project execution or completion

Key Stakeholders

- Project manager
- Customer
- Performing Organization
- Project Team Members
- Project Sponsor

Project Charter

- Is a document that gives the project existence
- Identifies the project manager and authority
- States the business purpose of the project
- Defines priorities in both business and technical terms
- Gives assumptions and constraints
- Summarizes the scope of the project



Preliminary Scope Statement

- Includes product scope description
- Used to provides an initial description of the scope of the project

2

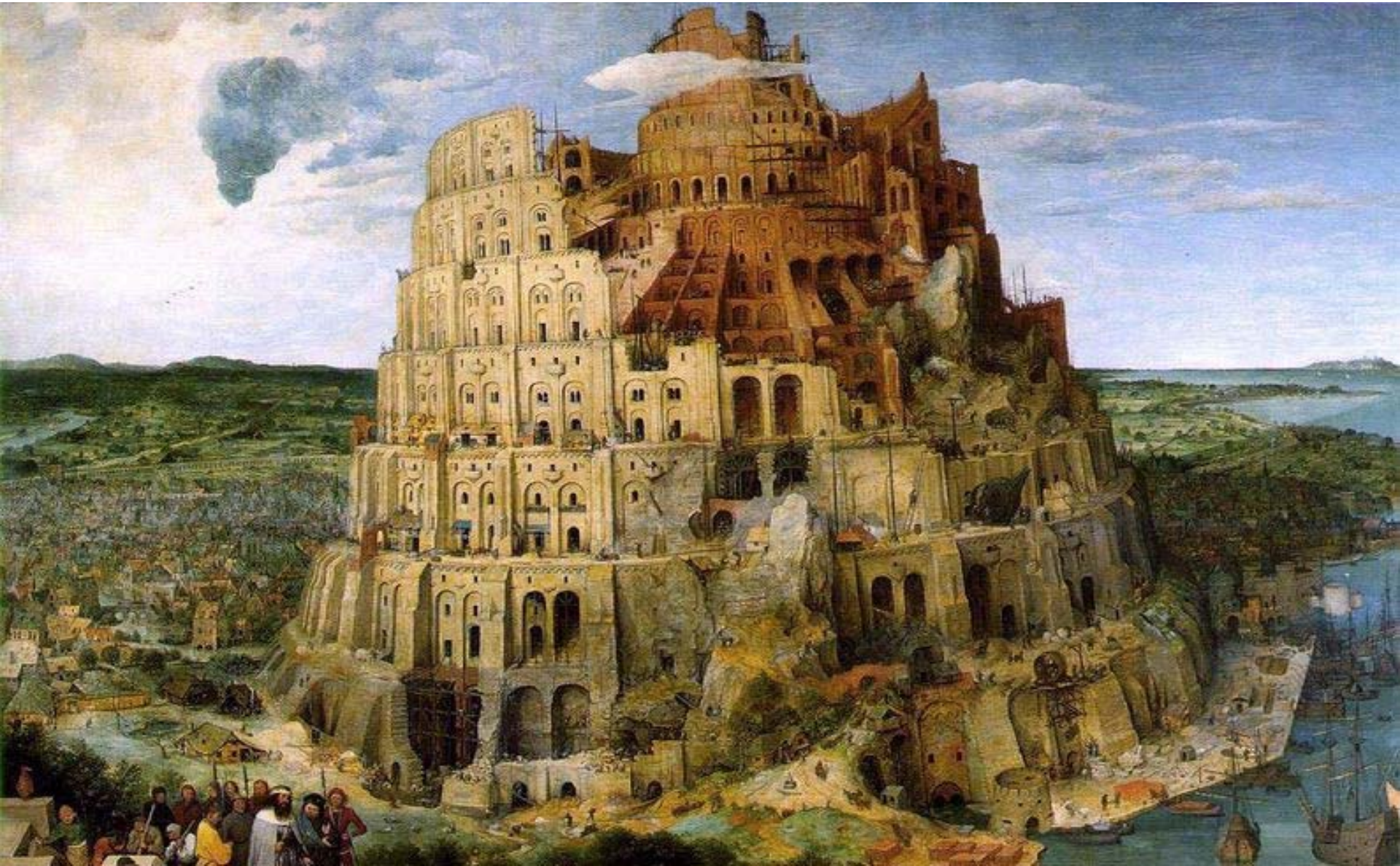
Planning

Why Project Planning

Primary Purpose of Project Planning is to establish a set of directions in sufficient detail to tell the project team exactly

- What must be done
- When it must be done
- What resources to use in order to produce the deliverables of the project successfully

Without Project Planning, The Result

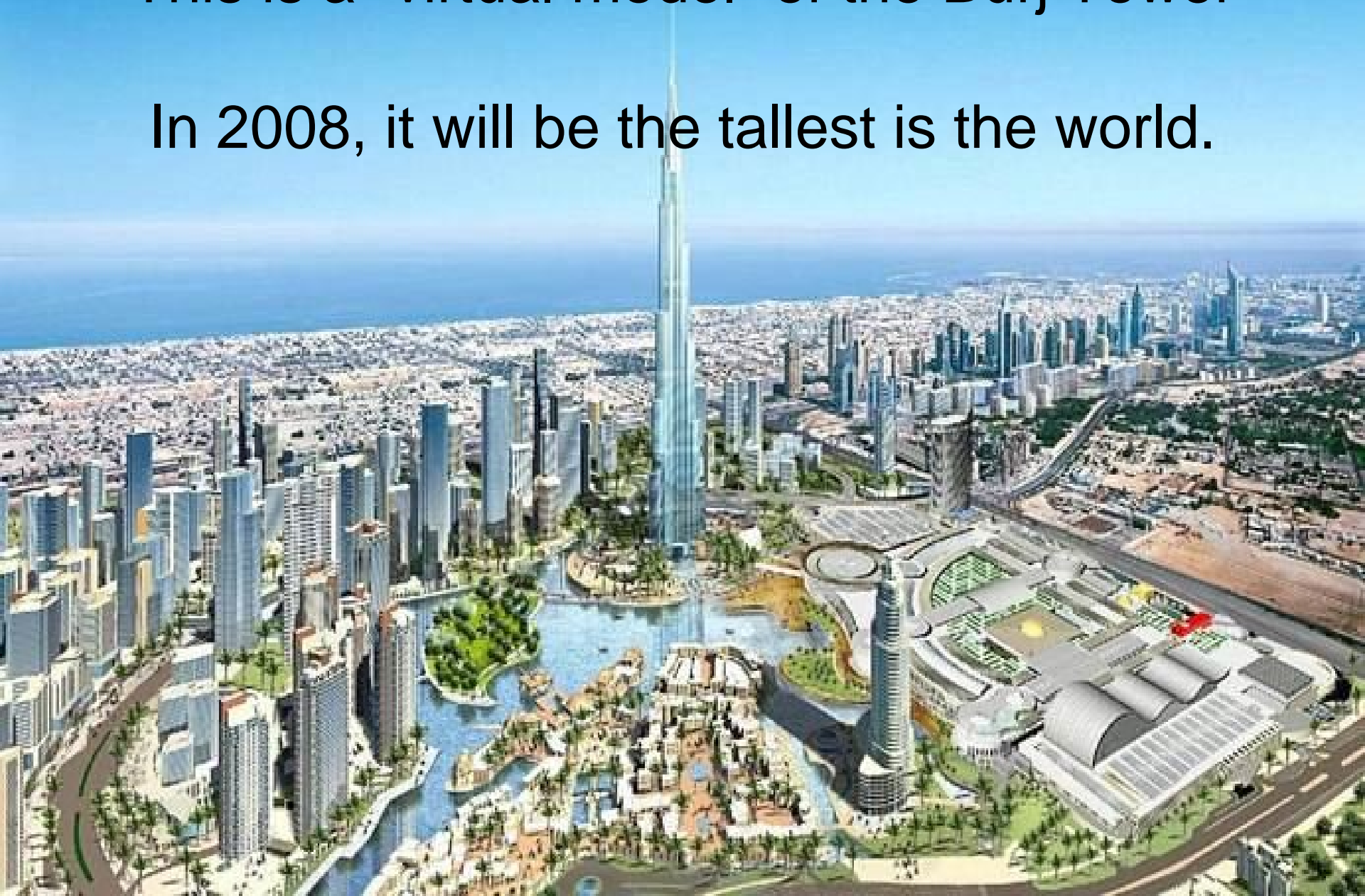


**With Project Planning, You may see a the city
with the biggest growing rate in the world...**



This is a “virtual model” of the Burj Tower

In 2008, it will be the tallest in the world.





Project Planning Process Group II

- Determine how you will do planning
- Create project scope statement
- Select project team
- **Create work breakdown structure (WBS)**
- Create activity list
- Create network diagram
- Establish resource requirements
- Establish time & cost

Project Planning

Process Group II Continued

- Determine critical path
- Develop a schedule
- Develop a budget
- Determine quality standards, processes and metrics
- Determine roles and responsibilities
- Determine communications requirements
- Identify (qualitative & quantitative) risk analysis & response planning



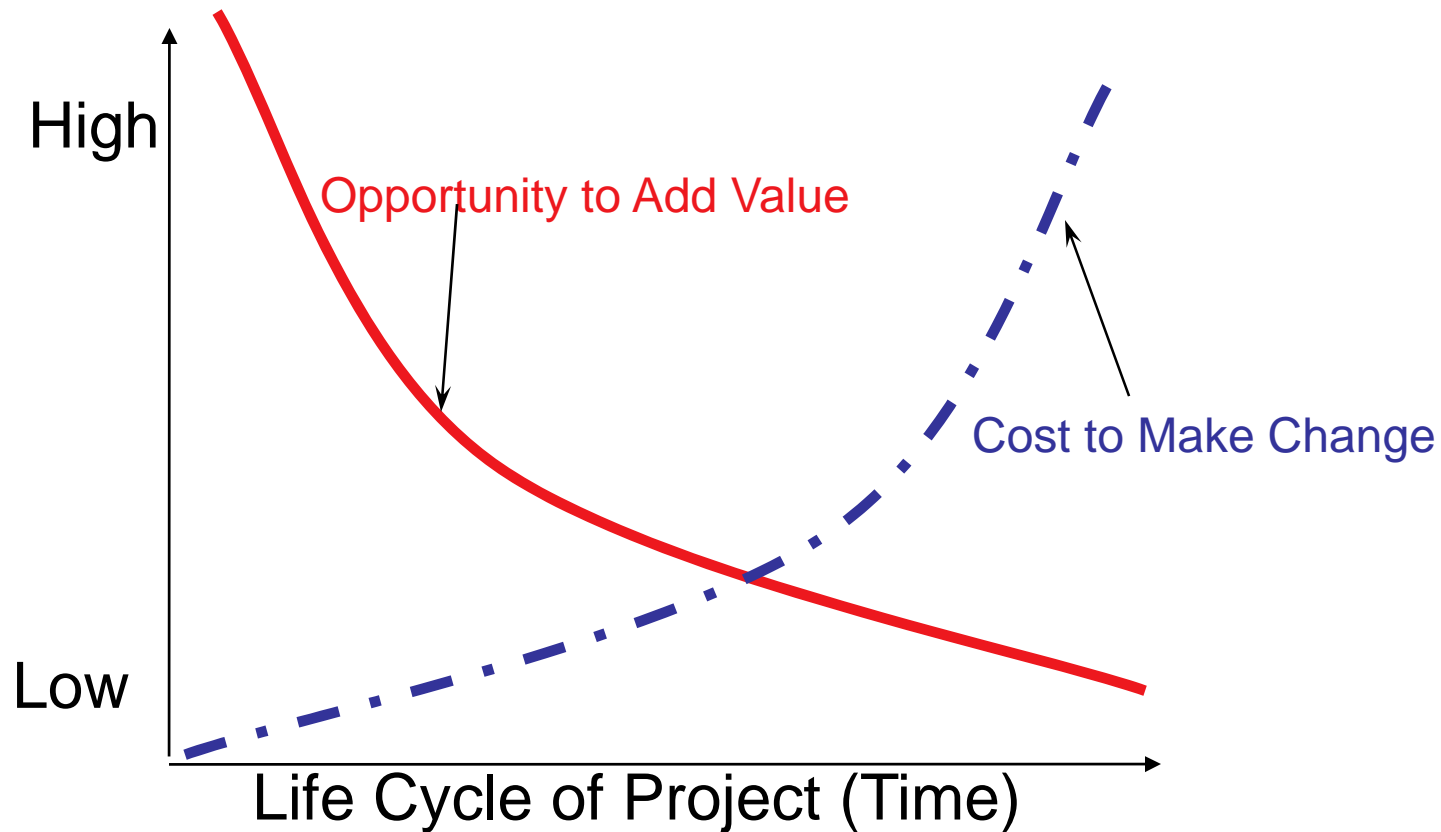
Project Planning

Process Group II Continued

- Determine what to purchase
- Prepare procurement documents
- Finalize the “How to execute and control” aspects of all management plans
- Create process improvement plan
- **Develop final Project Management Plan**
- Gain formal approval
- **Hold kickoff meeting**



Characteristics of a Life Cycle (1)





Work Breakdown Structure

The Work Breakdown Structure (WBS) is used to break a complex project into more manageable components to facilitate future project phases:

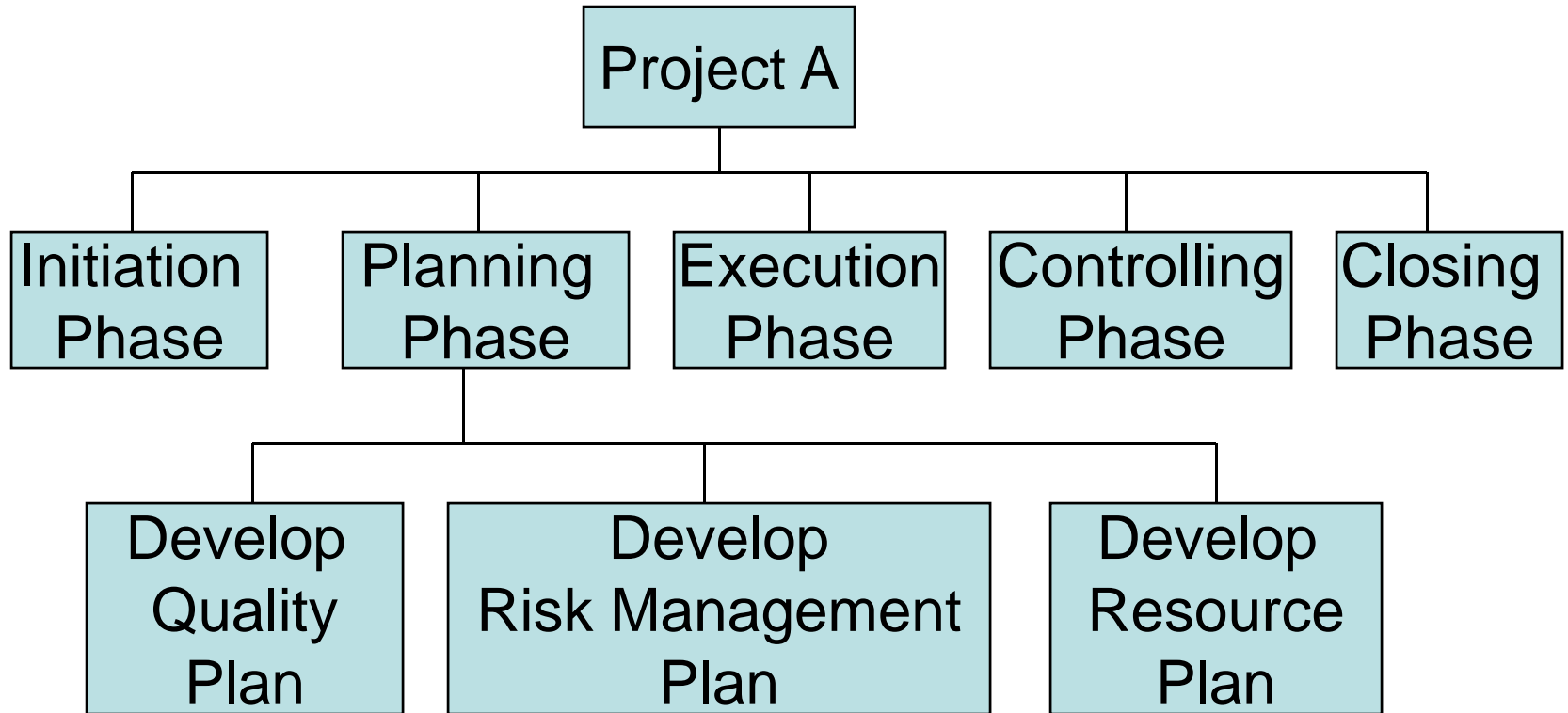
- Planning
- Executing
- Controlling
- Closing

Work Breakdown Structure

- Typically constructed with 2 or 3 levels of detail, or more for very complex projects.
- Start by identifying logical subdivisions of the project, then break each of these down further.
- Continue decomposition until you reach **the work package level** at which:
 - Cannot logically be subdivided further
 - Can be complete quickly
 - Have a meaningful conclusion and deliverable
 - The Project Manager feels appropriate to manage



Work Breakdown Structure Example





WBS Rules of Thumb

- Work packages follow 8/80 rule
 - Not less than 8 hours
 - Not more than 80 hours
- Not longer than one, or at most two, reporting periods in duration
 - Avoids the “task is almost done” syndrome
 - Task is only 0%, 50%, or 100% done.
 - No other completion % allowed

Planning Time Dimension

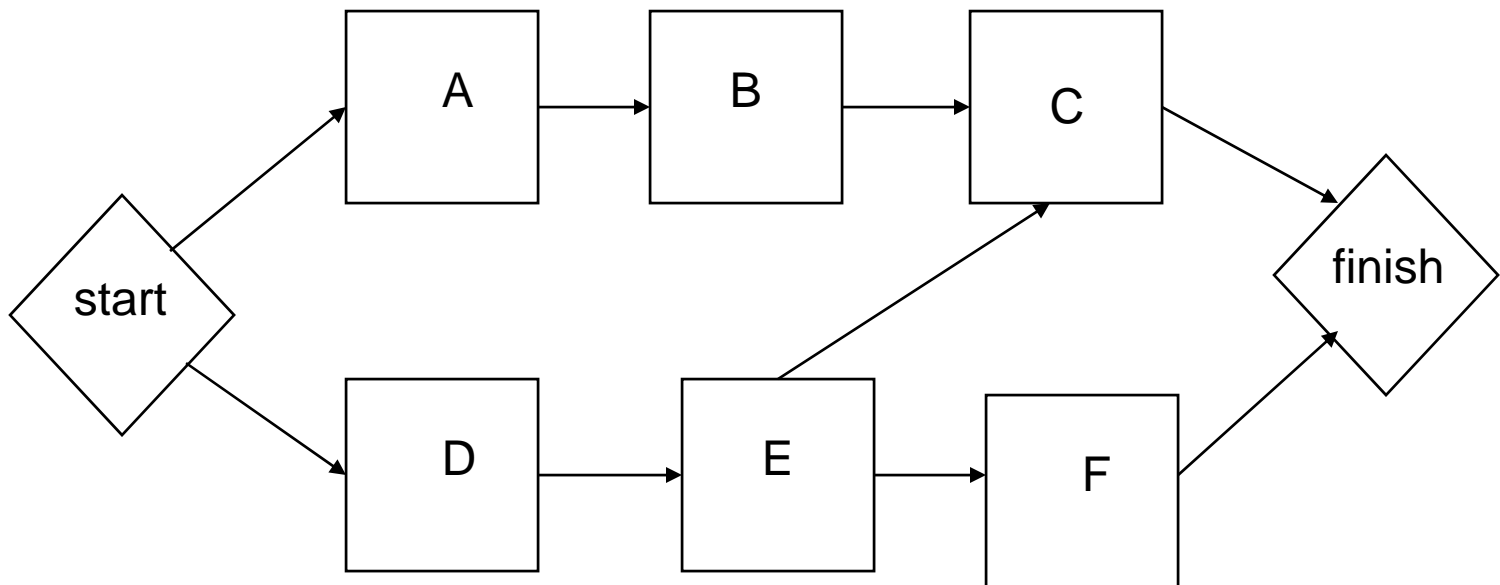
The objective is to determine the shortest time necessary to complete the project.

With WBS determine the time required to complete each subunit.

Next determine the sequence of the subunits completion, which ones may be under way at the same time. From this determine the 3 most significant time elements:

- The duration of each step
- The earliest time at which a step may be started
- The latest time at which a step must be started

Network Diagram



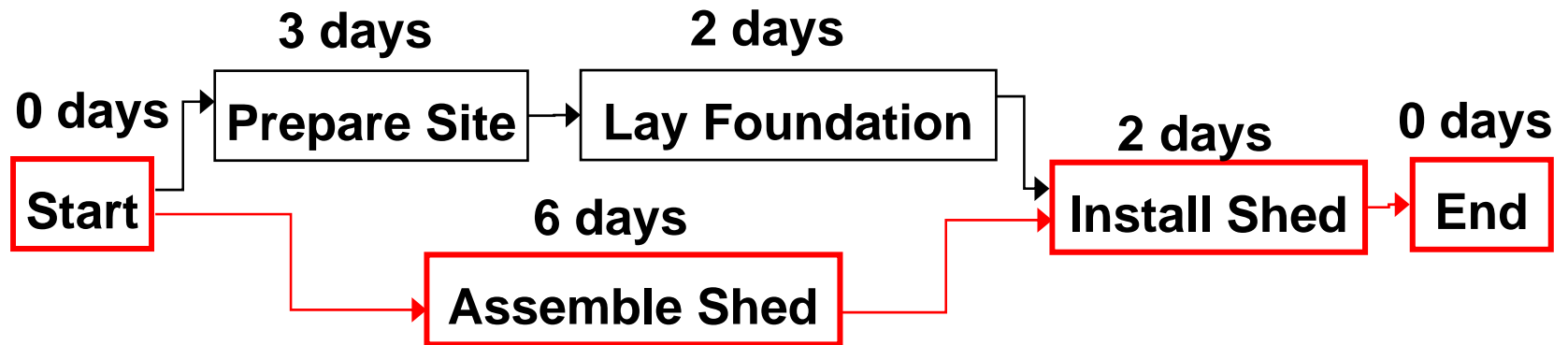
NETWORK ANALYSIS

- Shows the interdependence of tasks
- Estimates the project duration
- Determine the critical path
- Determine slack in the paths



Critical Path

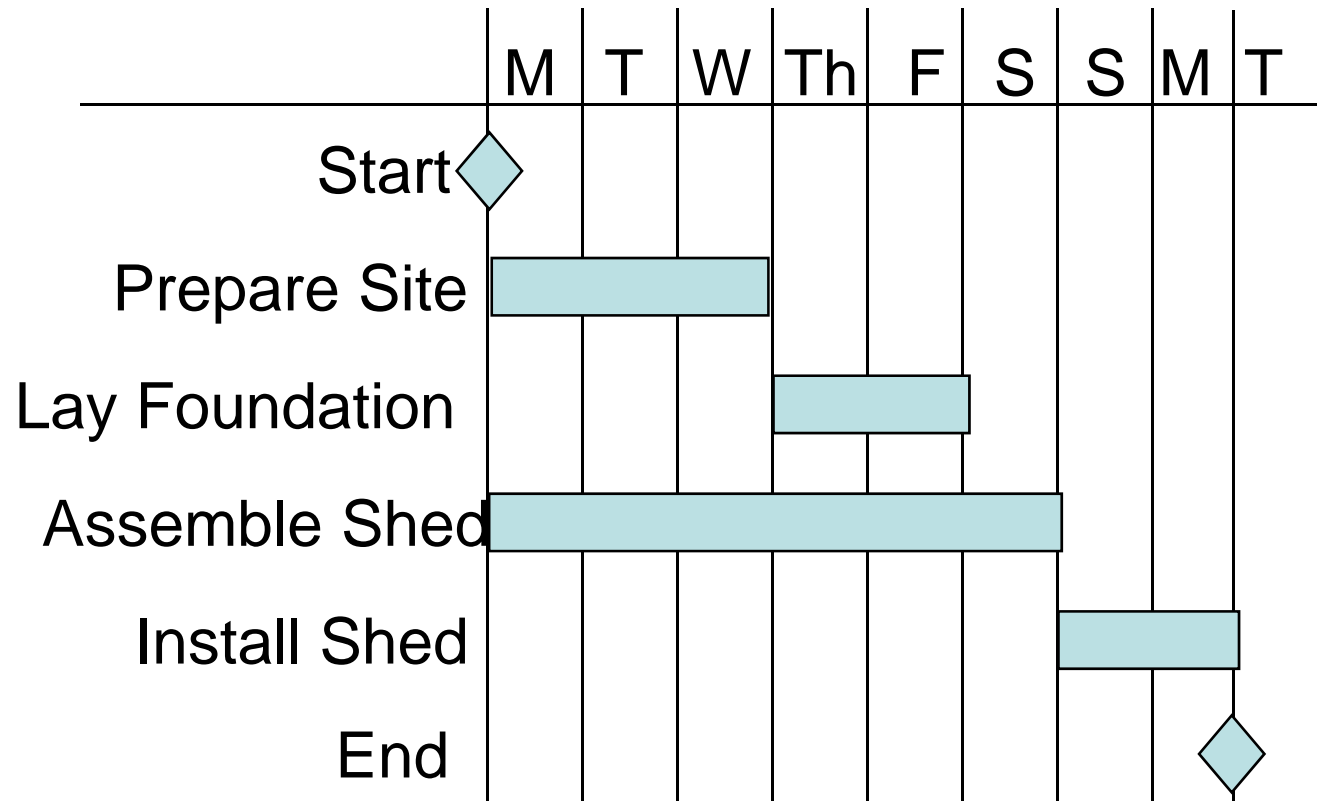
- Path with longest duration
 - Determines project length



- Float = delay allowed w/o project delay



Gantt Chart





Project Kickoff Meeting

- Held at the end of the planning process group before beginning work on the project
- Attended by all parties to the project
 - Customers Sellers Project team
 - Senior and Functional Management
 - Sponsor
- Held to make sure everyone is familiar with the details of the project & the people that will be working on the project
- Agenda will include a review of project risks, communication plan, and schedule.

3

EXECUTING

Project Execution Process Group III

- Acquire final team
- Execute PM Plan
- Complete Product Scope
- Recommend changes & corrective actions
- Send & receive information
- Implement approved changes, defect repair, preventive & corrective actions.
- Continuous improvement
- Follow processes
- Team building
- Give recognition & awards
- Hold progress meetings
- **Use work authorization system**
- Request seller responses
- Select seller

Work Authorization System

- Clarify & initiate the work of each work package
- Use formal procedure to authorize work to begin in the correct sequence and at the right time
- Defined by organization
- Work is authorized using form that describes task, responsible party, anticipated start & end dates, special instructions, and whatever else is particular to the project.
- Work is assigned and authorized by Project Mgr. or the Functional Mgr.

4

Monitoring & Controlling



Project Monitoring & Control Process Group IV

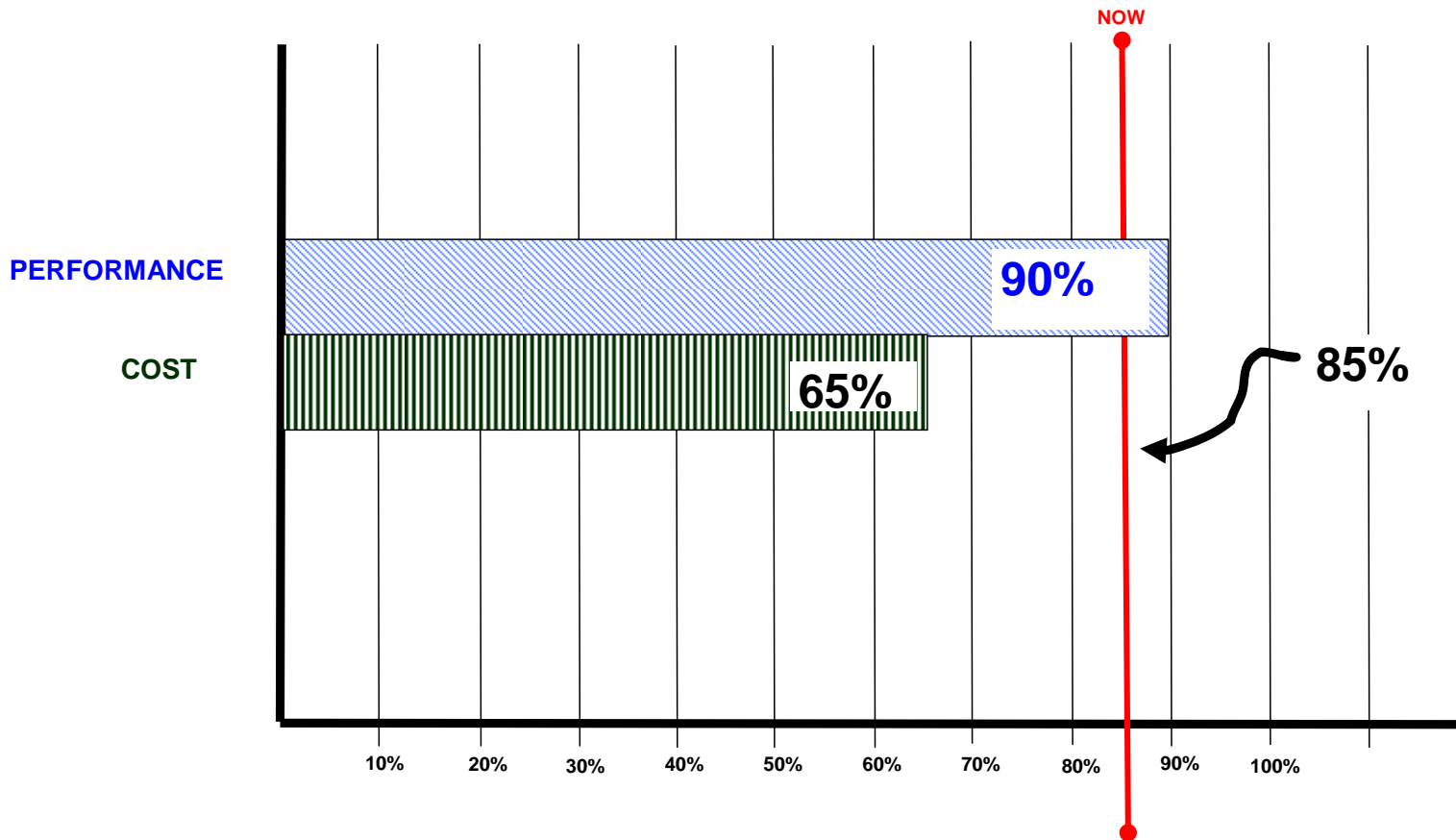
- Measure against the performance measurement baseline
- Measure according to the management plans
- Determine variances & if they warrant corrective action or a change
- **Scope Verification**
- Configuration management
- Recommend changes, defect repair, preventive & corrective actions



Project Monitoring & Control Process Group IV Continued...

- Perform integrated change control
- Approve change, defect repair, preventive & corrective actions
- Risk audits
- Manage reserve
- Use issue logs
- Facilitate conflict resolution
- Measure team member performance
- Report on performance
- Create forecasts
- Administer contracts

Performance Reporting



5

Closing



Project Closure Process Group V

- Develop closure procedures
- Complete contract closure
- Confirm work is done to requirements
- Gain formal acceptance of the product
- Final performance reporting
- Index and archive records
- Update lessons learned knowledge base
- Hand off completed product
- Release resources

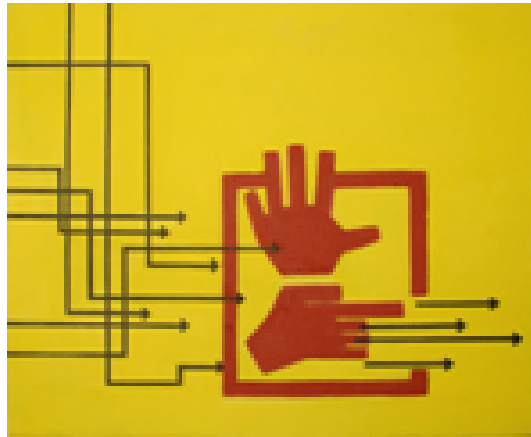
SUMMARY

- Projects are **temporary** undertakings that have a **definite beginning and end**, distinguishing them from ongoing work of an organization.
- There are **five phases** in any successful project: initiate, plan, execute, monitor & control, and close.
- It is imperative to the success of a project that it **be clearly defined before it is undertaken**, including the criteria for determining successful completion of the project.
- Changes are expected, but these **changes should be documented along with any resulting impact** on the schedule and budget.

Summary Continued...

- **A temporary team** is usually assembled to carry out the work of the project. Roles and responsibilities, and training.
- Frequently, **policies and procedures are required** to clarify how the team is to function during the project.
- Work must be coordinated & flow smoothly
- Progress of the **project must be monitored** and any deviations that occur measured, and corrective actions taken.
- The **project manager** is expected to provide feedback to team members, negotiate for materials, supplies, and services and help resolve differences.

Questions?



RPM and Associates Project Strategists

Helping Our Clients Win Contracts

We Put Projects on the Right Track
And Streamline Process Flows

Robert P. Mills, PE, MCPM, PMP
Principal Managing Consultant
281-481-4331 or 281-384-9305

rpmnassociates@sbcglobal.net

A Service—Connected Disabled Veteran Owned Business

Thank You

About US

RPM & Associates



We are Project Strategists who provide full service Engineering, Business Management Consulting, and Project Management Training and Consulting.

We focus on the integration of technology and business, where Business Management, Engineering and Project Management Consulting activities are combined to meet the requirements and achieve the desired results for our clients.

Our mission is to contribute to the success of our clients, by partnering with them to enhance their project management capabilities, and to create innovative solutions to their project management challenges.

We are ready to help them become more profitable by delivering projects on time and on budget using more mature project management practices to achieve better performance.

**A Service-Connected Disabled Veteran
Owned Business**

What is it that makes project management progressively more attractive to such a broad industrial and commercial base?

- In addition to claims that project management saves time, money, and organizational effort, project management is rapidly being recognized as a **value-added profession** from the customer perspective.
- Several organizations have taken the lead in promoting project management around the world.

What do you see as some of the main reasons projects are not completed successfully?

- It comes down to a basic lack of good communications, particularly at the executive level.
- The really great projects are the ones that have sharp communications because you have to have good decisions taken and they don't happen unless you have that clear communications literally at the boardroom level.

Benefits of Project Management

- Reduces project failures
- Reduces resistance to change
- Provides structured and proven project approach
- Improves project definition and planning
- Better project tools & techniques
- Better control of scope changes

Most Common Projects

- Construction projects
- Conceptual projects / Strategy formulation projects
- IT projects
- Re-organization projects
- R&D projects
- New product development projects
- Feasibility studies
- Large events
- ...

