



Project Management - Planning

Lecture in the
CS6022 – Software Project Management

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PROJECT FAILURES?



- Standish Group's recent Chaos report, 29 percent success rate, with 52 percent challenged, and 19 percent failed.
- Standish does emphasize that smaller projects have a much higher success rate than larger ones.
- Gartner, an IT research and advisory company, echoed these findings with recent reports that larger projects (those with budgets exceeding \$1 million) have higher failure rates, hovering around 28 percent.
- To effect improvement, PMI suggests that organizations go back to fundamentals. The three basic areas cited are:
 - *Culture*: Work to create a project management mind-set.
 - *Talent*: Focus on talent management, continuous training, and formal knowledge transfer.
 - *Process*: Support project management through the establishment and adoption of standardized project practices and processes.
- **My own survey,**

Not enough planning is being accomplished. Large or small, software, R&D, or administrative, successful projects rely on good *planning*.

PROJECT MANAGEMENT



■ What is project Management? —PMBOK® Guide

“Project management is the application of knowledge, skills, tools, and techniques to project activities to achieve project requirements. Project management is accomplished through the application and integration of the project management processes of initiating, planning, executing, monitoring and controlling, and closing.”

The new *PMBOK Guide* has added five new project management processes:

 Plan Scope Management.

 Plan Stakeholder Management

 Plan Schedule Management

 Control Stakeholder Management

 Plan Cost Management

PROJECT MANAGEMENT



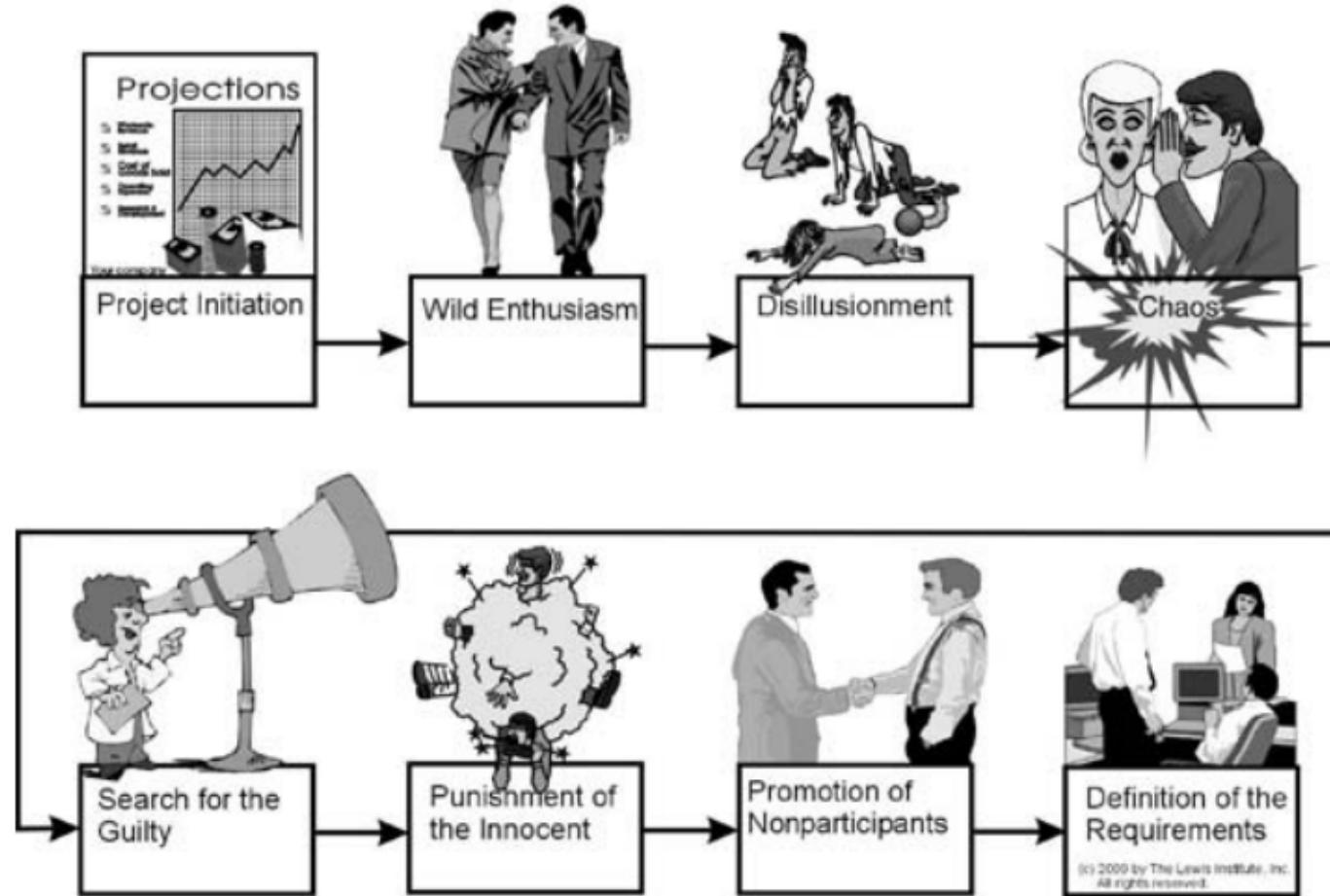
- Rule 1 of project management is that the people who must do the work should help plan it.
- The best definition of leadership that I have found is the one by Vance Packard, in his book “*The Pyramid Climbers*”

“Leadership is the art of getting others to want to do something that you believe should be done.”

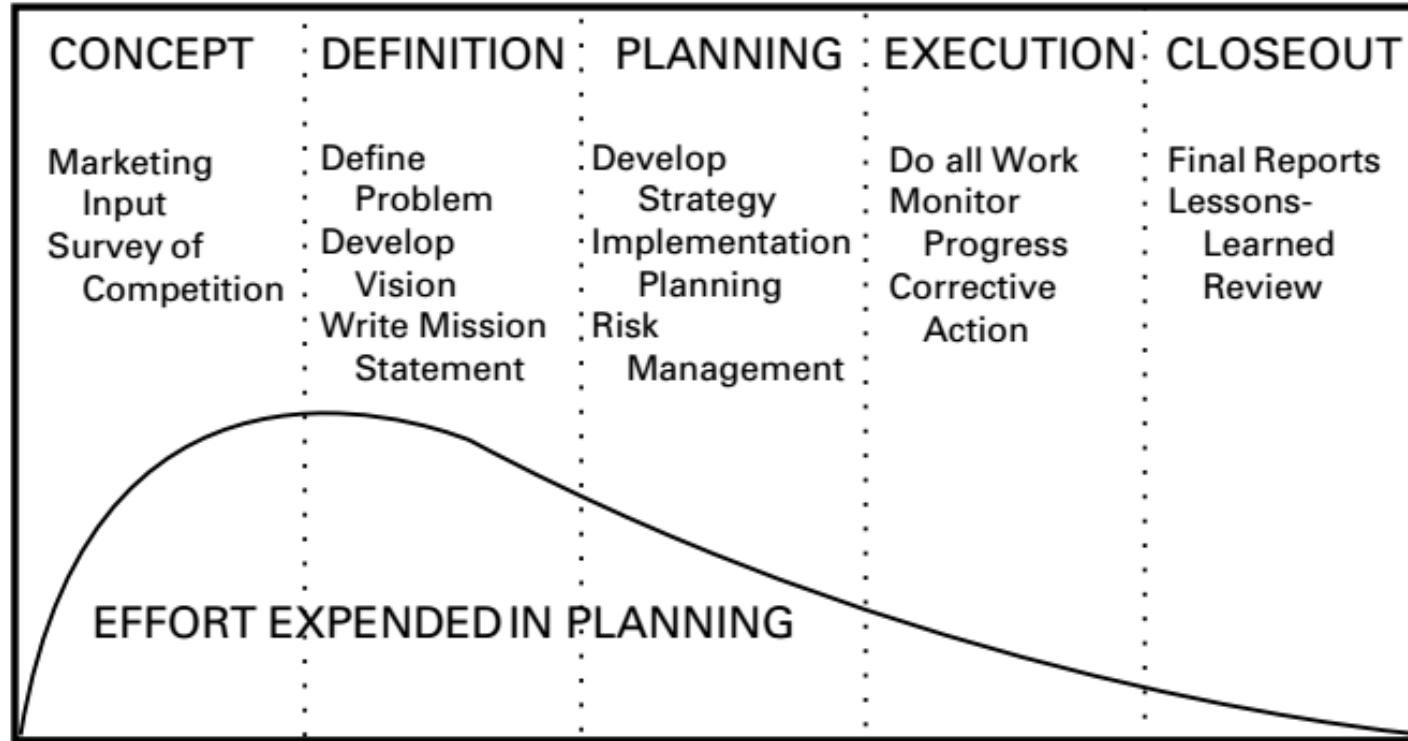
- The planning, scheduling, and control of work represent the management or administrative parts of the job.
- But, without leadership, projects tend to just satisfy bare minimum requirements.



LIFE CYCLE OF A TROUBLED PROJECT



APPROPRIATE PROJECT LIFE CYCLE



DEFINITION



- The *definition* phase of a project occurs very early when the problem is defined, the vision is developed, and the mission becomes clear.
- Projects without clear definitions headless chicken projects.
- Once the project is defined, you can plan how to do the work. There are three components to the plan: ***strategy, tactics, and logistics***.

Strategy	Tactics	Logistics
<ul style="list-style-type: none"> • high-level approach that your project will take to achieve the project requirements 	<ul style="list-style-type: none"> • The <i>implementation planning</i> phase of a project includes tactics and logistics. 	<ul style="list-style-type: none"> • making sure the team has the materials and other supplies needed to do their jobs.

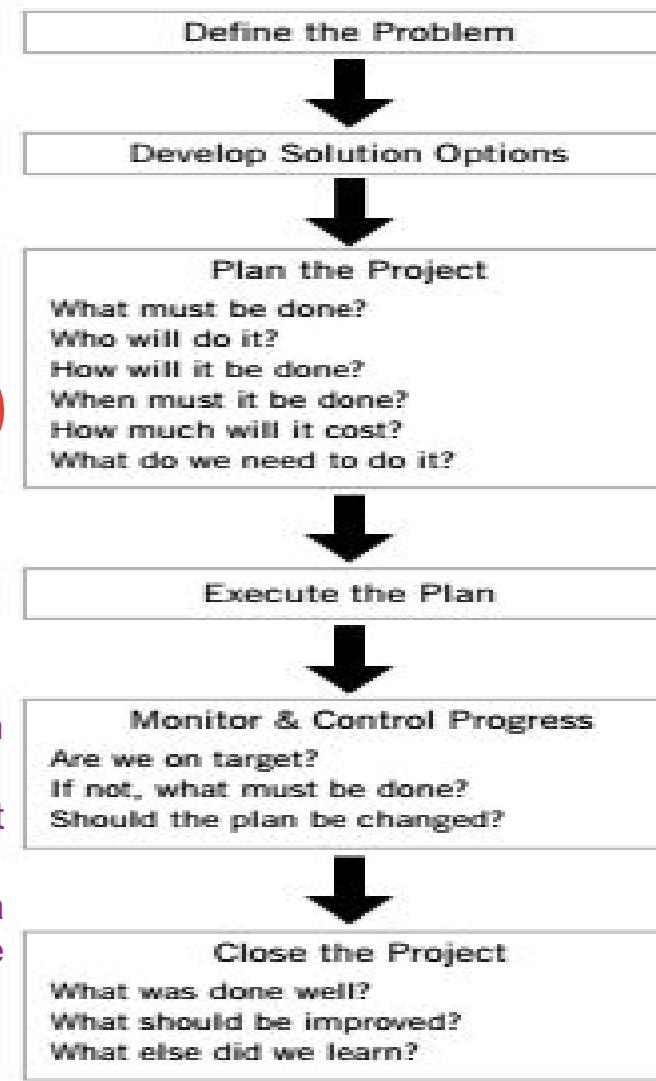
- **Closeout:** review of the project be conducted
“What did we do well?” & “What do we want to improve next time?”

STEPS IN MANAGING A PROJECT

1

- Identify the problem to be solved by the project.
- It helps to visualize the desired end result. What will be different?
- What client need is being satisfied by the project?

3



2

- How many different ways might you go about solving the problem?
- Brainstorm solution alternatives
- Of the available alternatives, which do you think will best solve the problem?
- Is it more or less costly than other suitable choices?
- Will it result in a complete or only a partial fix?

4

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- Plans are developed so that you can achieve your end result successfully.
- Unless progress is monitored, you cannot be sure you will succeed.
- It would be like having a road map to a destination but not monitoring the highway signs along the way.

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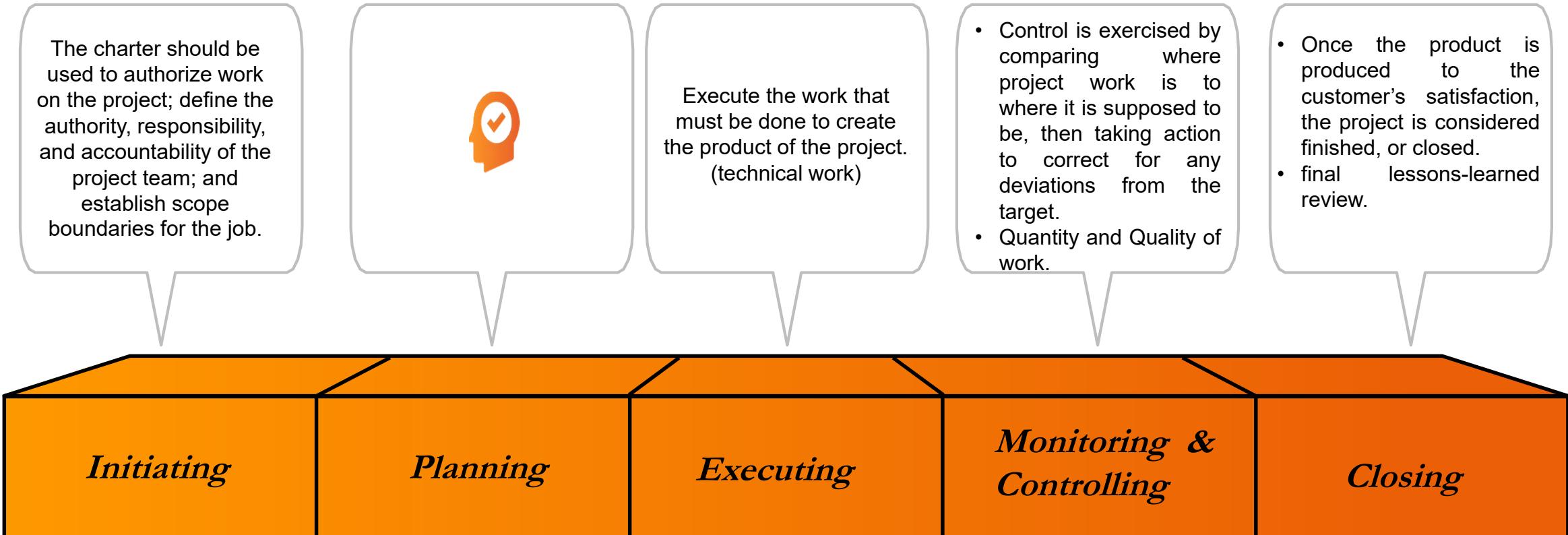
- People call it an audit, others a postmortem.
- “What was done well?”
- “What should be improved?”
- “What else did we learn?”
- “What did we do wrong?”



PROJECT PROCESSES



⌚ Process is a way of doing something.



ITEMS OF PLANNING



- *Problem Statement.*
- *Project Mission Statement*
- *Project Objectives*
- *Project Work Requirements* – Includes deliverables such as reports, hardware, software etc.
- *Exit Criteria* - to determine whether the preceding phase of work is actually finished.
- *End-item Specifications to be Met* - engineering specifications, architectural specs, building codes, government regulations, and so on.
- *Work Breakdown Structure (WBS)* - identification of all of the tasks that must be performed in order to achieve project objectives.
- *Schedules* - both milestone and working schedules should be provided.
- *Required Resources* - people, equipment, materials, and facilities
- *Control System*
- *Major Contributors*
- *Risk Areas with Contingencies*

“A stakeholder is anyone who has a vested interest in the project. These include contributors, customers, managers, and financial people”

SIGN-OFF OF THE PLAN



- Once the plan has been prepared, it should be submitted to stakeholders for their signatures.
- A *signature* means that the individual is committed to his contribution, agrees with the scope of work to be done, and accepts the specs as valid.
- A signature on the part of a contributor does not mean a guarantee of performance.
- The plan should be signed in a project plan review meeting, not by mail.

CHANGING THE PLAN

- It would be nice to think that a plan, once developed, would never change. However, that is unrealistic.
- Make changes in an orderly way, following a standard change procedure.
- If no change control is exercised, the project may wind up over budget, behind schedule, and hopelessly inadequate, with no warning until it is too late.



■ SUGGESTIONS FOR HANDLING CHANGES

Changes should be made only when a significant deviation occurs. A significant change is usually specified in terms of the percentage of tolerances relative to the original targets.

- Change control is necessary to protect everyone from the effects of scope creep—changes to the project that result in additional work. If changes in scope are not identified and managed properly, the project may come in considerably over budget and/or behind schedule.
- Causes of changes should be documented for reference in planning future projects. The causes should be factual, not blame-and-punishment statements.
-

SUGGESTIONS FOR EFFECTIVE PLANNING



- ***Plan to plan :*** It is always difficult to get people together to develop a plan. The planning session itself should be planned, or it may turn into a totally disorganized meeting of the type that plagues many organizations.
 - an agenda must be prepared,
 - the meeting should be time limited to the degree possible, and
 - people should be kept on track

excellent guides to running meetings - *Mining Group Gold* by Tom Kayser McGraw-Hill, 1990

- The people who must implement a plan should participate in preparing it.

Rule: The people who do the work should participate in developing the plan.

The first rule of planning is to be prepared to replan.

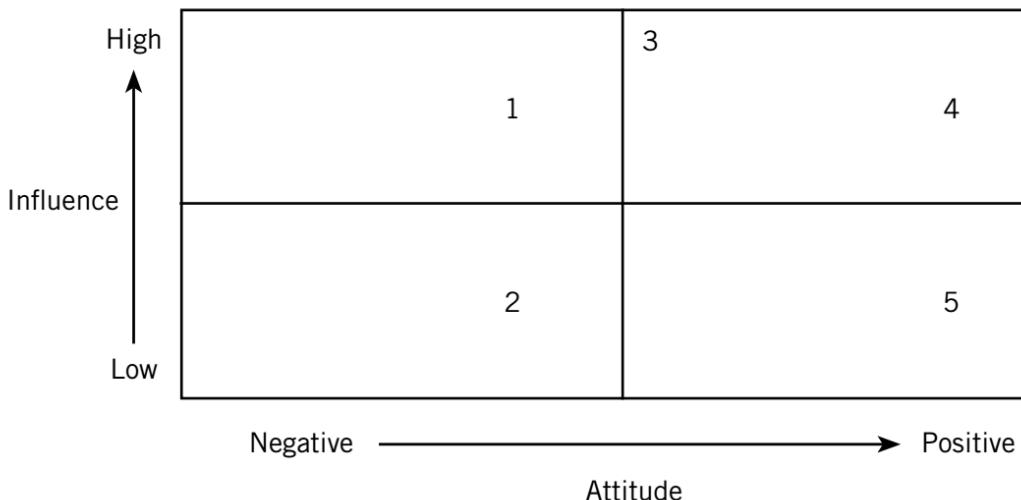
- Because unexpected obstacles will crop up, always conduct a risk analysis to anticipate the most likely ones (Develop Plan B just in case Plan A doesn't work.)
- Begin by looking at the purpose of doing whatever is to be done. Develop a problem statement.
- Use the work breakdown structure to divide the work into smaller chunks for which you can develop accurate estimates for duration, cost, and resource requirements.

STAKEHOLDER MANAGEMENT



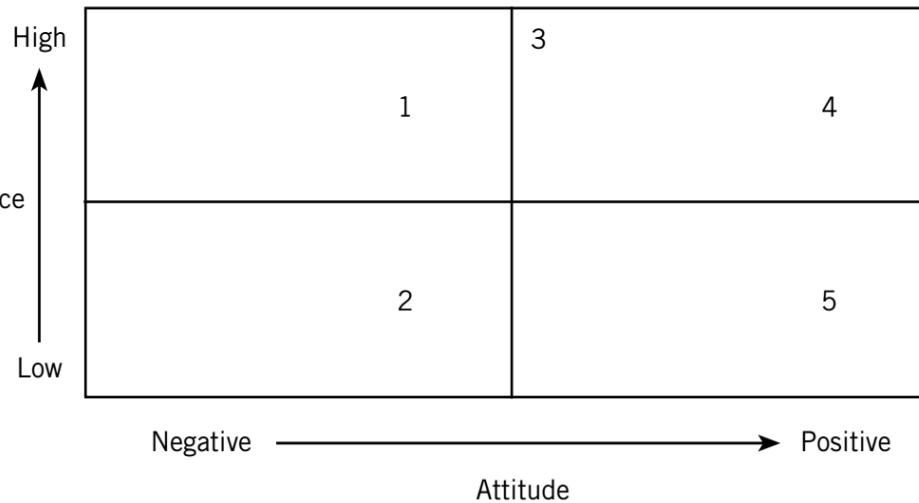
- Managing stakeholders begins with identifying the individual stakeholders by asking three basic questions:
 - Who benefits from the project?
 - Who contributes to the project?
 - Who is impacted by the project?

THE STAKEHOLDER GRID



- Those stakeholders with low influence or power do not demand much of your time or effort because their impact will be minimal.
- Those with high influence or power can be devastating if their attitude is negative, but their power can be leveraged if their attitude is positive.

STAKEHOLDER MANAGEMENT



- **Person 2.** His/Her attitude is negative toward the project, but his/her influence is low. Limited effort is required here, but I would keep him on my radar; he may get promoted.
- **Person 5.** His/Her attitude toward the project is positive, but her influence is low. This is good but not particularly helpful.
- **Persons 3 and 4.** These stakeholders have a positive attitude toward the project, and their influence is high. Here is an opportunity to leverage their influence to help persuade others.
- **Person 1.** Person 1 is dangerous because she has a negative attitude about your project and her influence is high. She can kill the project if she is not managed correctly. This may require a formal meeting, coffee in the morning, a nice lunch, etc. Your goal is to find out what her objection to the project is and work to bring her into your corner.



THE STAKEHOLDERS ENGAGEMENT ASSESSMENT MATRIX

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
Stakeholder 1	C			D	
Stakeholder 2			C	D	
Stakeholder 3				D C	

Unaware. Unaware of project and potential impact.

Resistant. Aware of project and potential impacts and resistant to change.

Neutral. Aware of project yet neither supportive nor resistant.

Supportive. Aware of project and potential impacts and supportive to change.

Leading. Aware of project and potential impacts and actively engaged in ensuring the project is a success.

C = Current engagement

D = Desired engagement

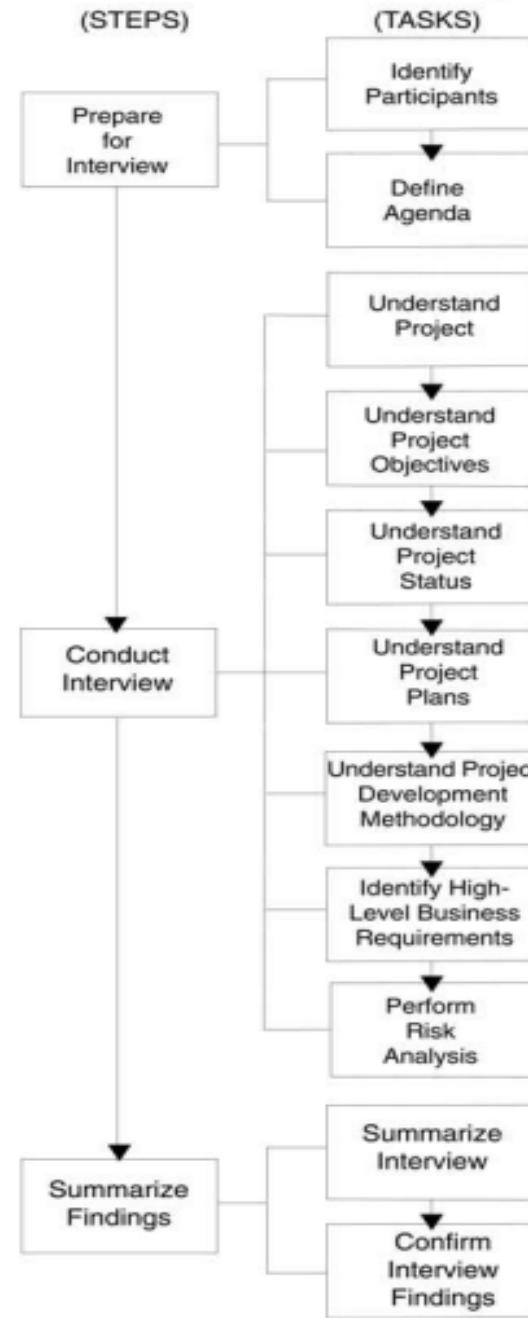


AUDIENCE GUIDE TO KNOWLEDGE AND COMMUNICATION

Audience Guides	Knowledge Level	Communication
Project Manager	<ul style="list-style-type: none">• Deeply knowledgeable about project/subject—know technical terms, jargon, and acronyms	<ul style="list-style-type: none">• Acceptable to use jargon and acronyms and not explain terms
Client SMEs and Client PM	<ul style="list-style-type: none">• Fairly knowledgeable about project/subject. Some knowledge about project process but not all technical terms	<ul style="list-style-type: none">• Translate technical language into project language• Include a glossary of project/technical terms
Project Sponsors	<ul style="list-style-type: none">• Have big picture• Not focused on details• Very limited to understanding of technical jargon	<ul style="list-style-type: none">• They are most concerned about hitting project goals and vision• Less technical jargon and detail required
Everyone Else (End Users, etc.)	<ul style="list-style-type: none">• Know how things currently work• No real project knowledge	<ul style="list-style-type: none">• Translate terms• Communicate vision and goals• Avoid technical terms

Information Gathering

(STEPS)





UNDERSTAND THE PROJECT

Interview Agenda
I. Introductions
II. Project Overview
III. Project Objectives
IV. Project Status
V. Project Plans
VI. Development Methodology
VII. High-level Requirements
VIII. Project Risks and Issues
IX. Summary

- What is the name of the project?
- What are the high-level project objectives?
- What is the audience (users of the system) to be developed?
- When was the project started?
- When is it anticipated to be complete?
- Where is the project in developing the system?
- What is the projected effort in person-months?
- Is this a new, maintenance, or package development project?
- What are the major problems, issues, and concerns?
- Are there plans to address problems and issues?
- Is the budget on schedule?
- Is the budget too tight, too loose, or about right?
- What organizational units are participating in the project?
- Is there an established organization chart?
- What resources are assigned to each unit?
- What is the decision-making structure, i.e., who makes the decisions?
- What are the project roles and the responsibilities associated with each role?
- Who is the resource with whom the test team will communicate on a daily basis?
- Has a quality management plan been developed?
- Has a periodic review process been set up?
- Has there been a representative from the user community appointed to represent quality?

UNDERSTAND THE PROJECT OBJECTIVES



- Purpose
 - What type of system is being developed, e.g., payroll, order entry, inventory, accounts receivable/payable?
 - Why is the system being developed?
 - What subsystems are involved?
 - What are the subjective requirements, e.g., ease of use, efficiency, morale, flexibility?
- Scope
 - Who are the users of the system?
 - What are the users' job titles and roles?
 - What are the major and subfunctions of the system?
 - What functions will not be implemented?
 - What business procedures are within the scope of the system?
 - Are there analysis diagrams, such as business flow diagrams, data flow diagrams, or data models, to describe the system?
 - Have project deliverables been defined along with completeness criteria?
- Benefits
 - What are the anticipated benefits that will be provided to the user with this system:
 1. Increased productivity
 2. Improved quality
 3. Cost savings
 4. Increased revenue
 5. More competitive advantage, etc.
- Strategic
 - What are the strategic or competitive advantages?
 - What impact will the system have on the organization, customers, legal, government, etc.?
- Constraints
 - What are the financial, organizational, personnel, technological constraints, or limitations for the system?
 - What business functions and procedures are out of scope of the system?



UNDERSTAND THE PROJECT STATUS

- Has a detailed project work plan, including activities, tasks, dependencies, resource assignments, work effort estimates, and milestones, been developed?
- Is the project on schedule?
- Is the completion time too tight?
- Is the completion time too loose?
- Is the completion time about right?
- Have there been any major slips in the schedule that will impact the critical path?
- How far is the project from meeting its objectives?
- Are the user functionality and quality expectations realistic and being met?
- Are the project work effort hours trends on schedule?
- Are the project costs trends within the budget?
- What development deliverables have been delivered?

UNDERSTAND THE PROJECT PLAN



- Work Break Down
 - Has a Microsoft Project (or other tool) plan been developed?
 - How detailed is the plan, e.g., how many major and bottom-level tasks have been identified?
 - What are the major project milestones (internal and external)?
- Assignments
 - Have appropriate resources been assigned to each work plan?
 - Is the work plan well balanced?
 - What is the plan to stage resources?
- Schedule
 - Is the project plan on schedule?
 - Is the project plan behind schedule?
 - Is the plan updated periodically?



UNDERSTAND THE PROJECT DEVELOPMENT METHODOLOGY

- What is the methodology?
 - What development and project management methodology does the development organization use?
 - How well does the development organization follow the development methodology?
 - Is there room for interpretation or flexibility?
- Standards
 - Are standards and practices documented?
 - Are the standards useful or do they hinder productivity?
 - How well does the development organization enforce standards?

THANKS!

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