How To Manage a Troubled Project

GTC 2007

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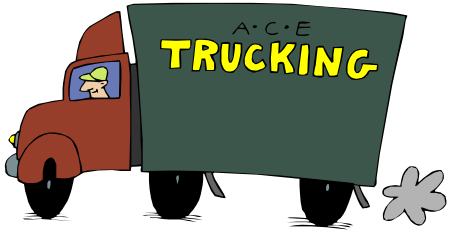
How To Manage a Troubled Project

Logistics

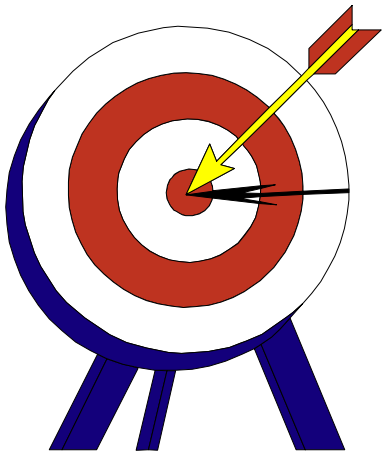
- Start and finish
- Breaks and lunch
  - Morning: one 15-minute break
  - Lunch: 60 minutes
  - Afternoon: one 15-minute break
- Facilities, telephones and messages
- Questions, class discussions, and exercises



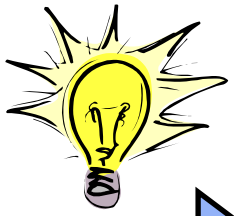
Process

How to Manage a Troubled Project

- Recognize the early warning signs
- How to plan a project recovery
  - Review and revise due diligence
    - Scope statement
    - Stakeholder analysis
    - Risk assessment and risk management plans
  - Review and revise project management plan
    - WBS/Network Diagram
    - Estimates
    - Team member performance/assignment
    - Sponsorship commitment
  - Review and revise project schedule
- How to kill a troubled project
- Seminar closure



Project Process Architecture™

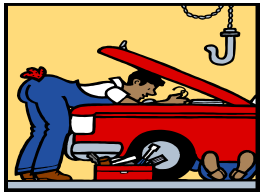


Today's Focus

Pre Launch → **Launch** → **Execute** → **Implement**

Project Charter	*Plans & Estimates*	*Schedule, Track & Control*	*Completed Project*

4 Stages, 24 Steps
Scaleable Model



Project Process Architecture™

Pre-Launch

Project Charter

- ✓ 1. Project Description
- ✓ 2. Intra-Project Priority Analysis
- ✓ 3. Stakeholder Analysis
- ✓ 4. Complexity Assessment
- 5. Policies, Standards, and Procedures
- 6. Impact Assessment
- 7. Constraints & Obstacles
- 8. Stability
- 9. Issues
- ✓ 10. Risk Assessment
- ✓ 11. Scope, Size
- ✓ 12. Project Charter

✓ = Recommended for all projects

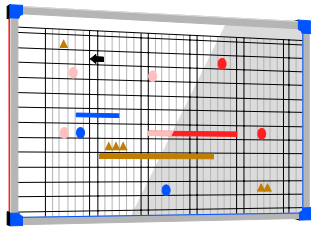
Project Process Architecture™

Launch

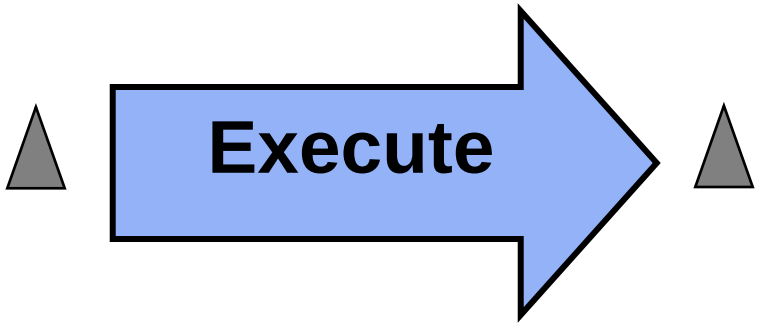
Plans & Estimates

- ✓ **13. Task Plan**
- **14. Prototyping Plan**
- **15. Scope Management Plan**
- ✓ **16. Organization Plan**
- **17. Staffing and Training Plan**
- **18. Communication Plan**
- **19. Project Notebook**
- ✓ **20. Estimates**

✓ = Recommended for all projects



Project Process Architecture™



Schedule, Track & Control

- ✓ **21. Schedules**
- ✓ **22. Progress Reviews and Project Control**

✓ **= Recommended for all projects**

Project Process Architecture™

Implement → **Completed Project**

- ✓ **23. Project Implementation and Closure**
- **24. Process Assessment**

✓ = Recommended for all projects

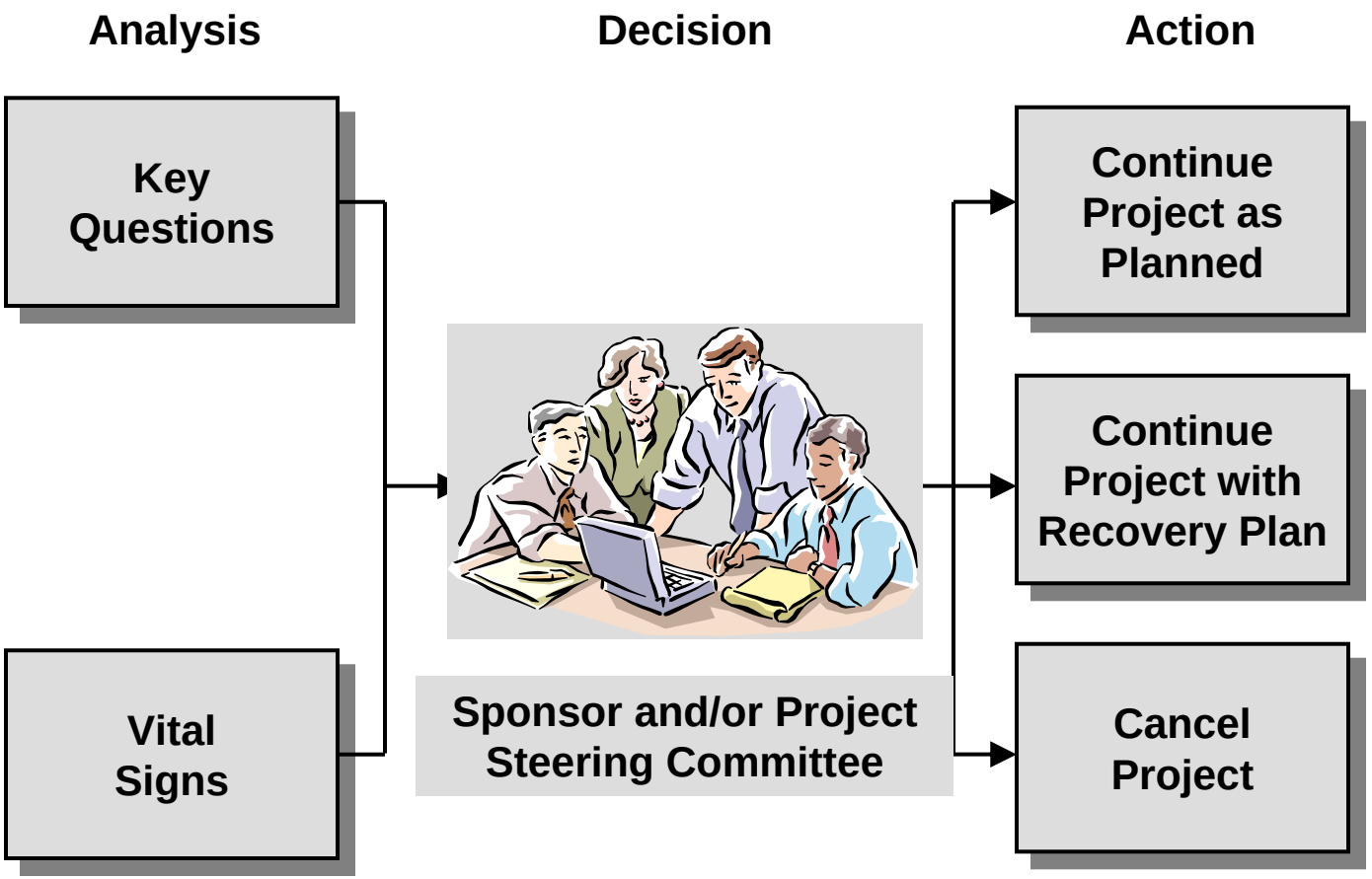
Dealing with Troubled Projects

- Many organizations waste a great deal of money by allowing troubled projects to continue long after there were signs of trouble
- Two key questions should be asked throughout the life of the project:
  - Are we doing the right project?
  - Are we doing the project right?

Troubled Project Assessment

- Project managers must have an established process to make timely decisions regarding project shutdown
- There are three steps in the process:
  - Analysis
  - Decision
  - Action

Troubled Project Assessment



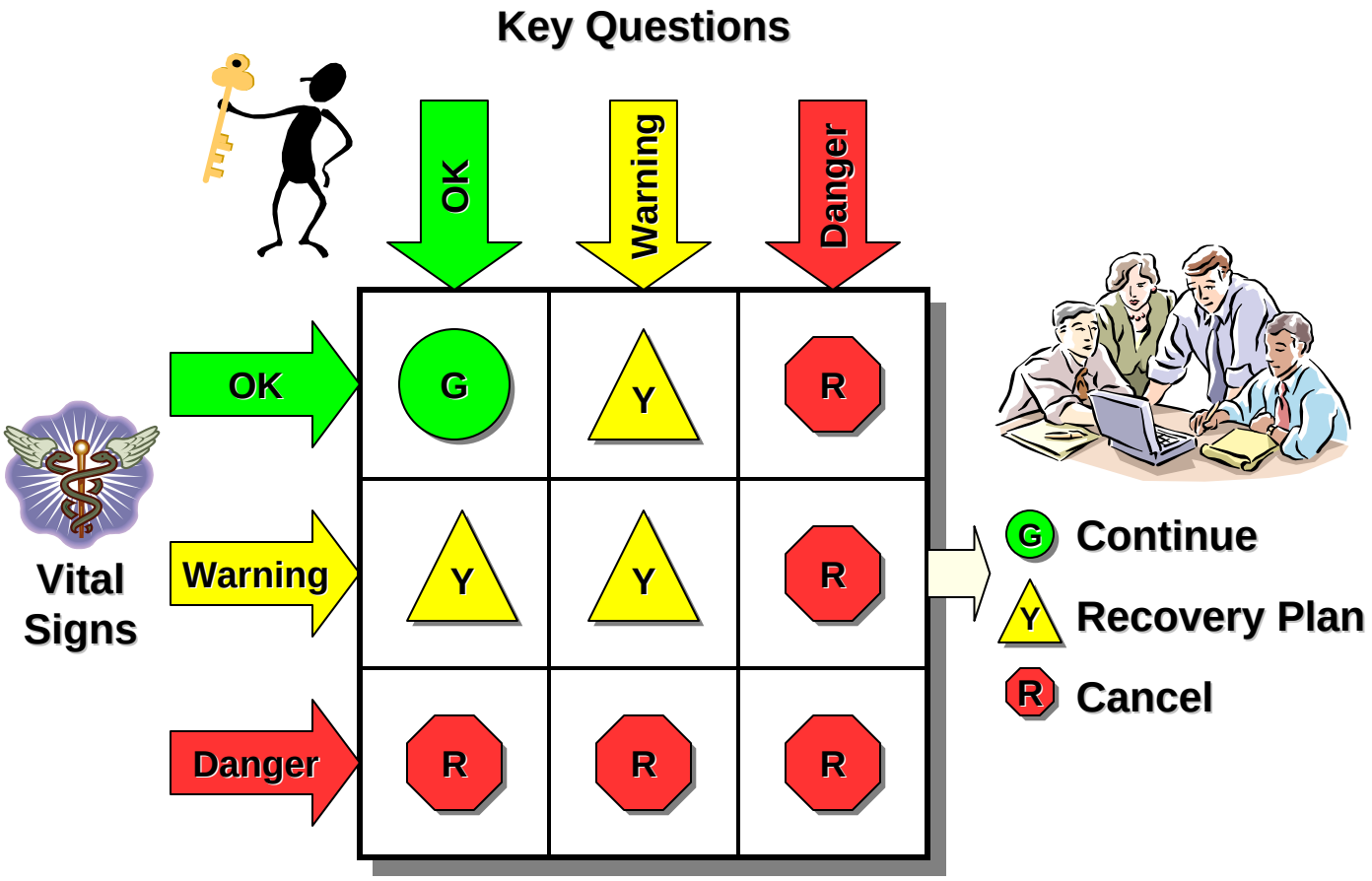
Analysis (1)

- In analysis, ask a set of key questions:
  - Is this an approved project?
  - Is this a unique project?
  - Is there a fit with business strategy?
  - Is the technology viable?
  - Is there an appropriate sponsor?
  - Is there customer buy-in?
  - Is the project dependent on another project?
  - Is the defect rate acceptable
- Interpret the responses to key questions
  - Yes to all questions--green light
  - No to one or more, but solutions in sight--yellow warning light
  - No to one or more, no solution in sight--red light, danger, approaching shutdown

Analysis (2)

- Reassess all vital signs
- Combine the key questions and vital signs information
- Analyze the findings and present recommendations to the sponsor for decision

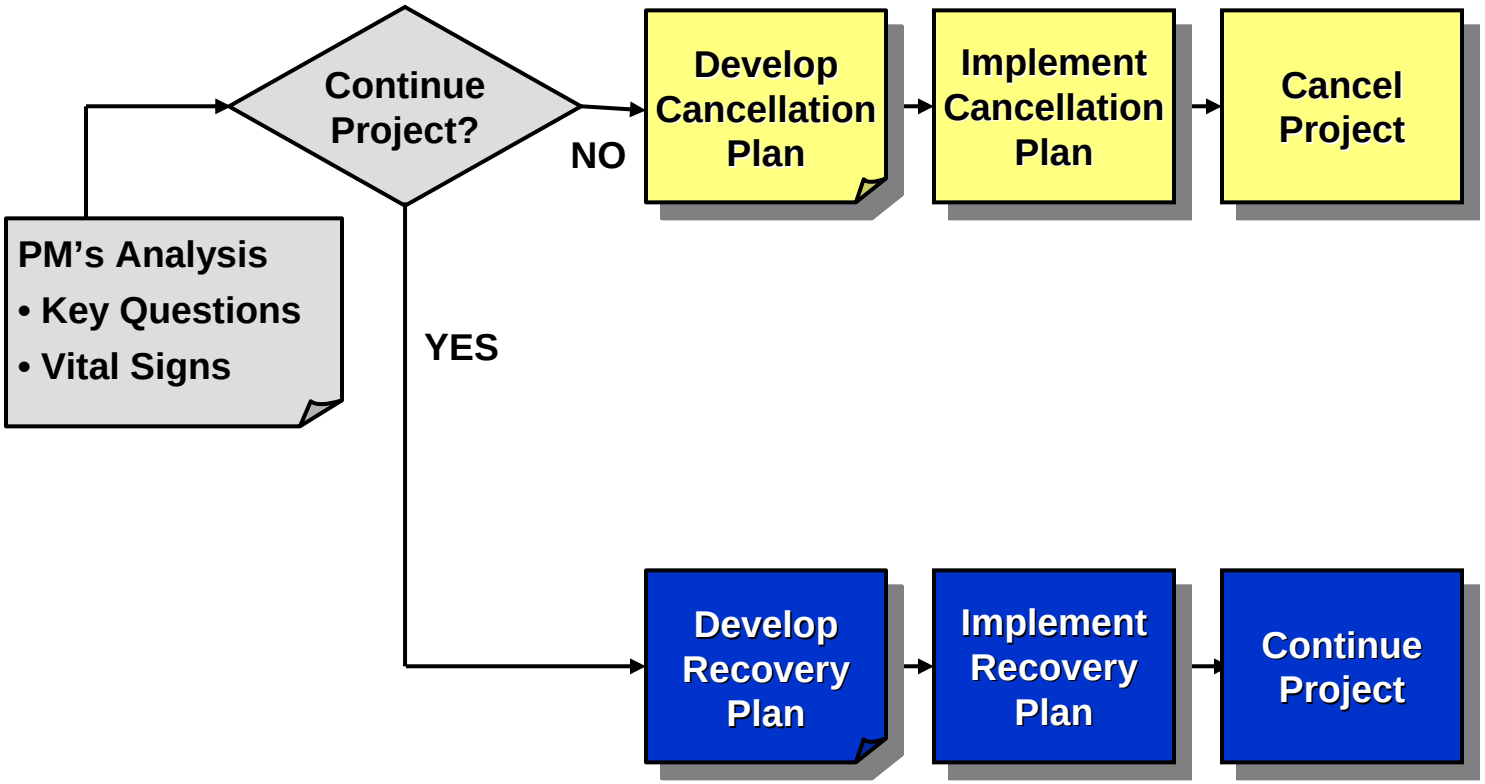
Weighing the Facts



Decision

- The sponsor and/or the steering committee meet to review the project manager's information and make a decision regarding the fate of the project
- There are two options:
  - Develop a project recovery plan and continue the project
  - Develop a cancellation plan and cancel the project

Decision-Making and Action Steps



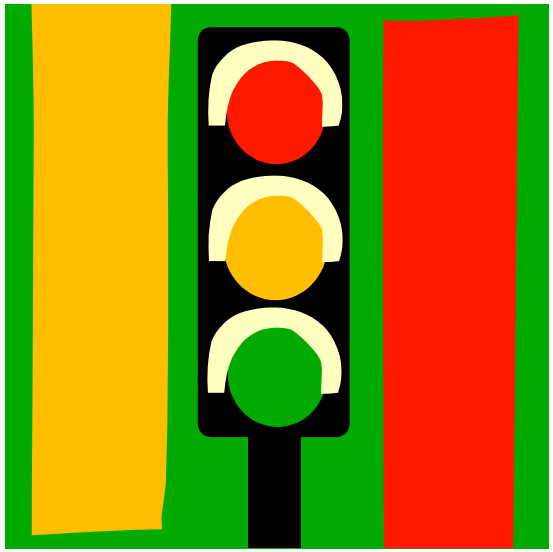
Deploy Recovery Plan

- If the decision is to save the project
  - The project manager develops an aggressive recovery plan
  - The project manager and sponsor must monitor the project closely and report frequently to the steering committee.

“Troubled Project Selection”

- Working with your team – select a troubled project to focus on during the session
- Select a project that team members can relate to
- Timing: 10 minutes

Recognize the Early Warning Signs



Project Vital Signs

- Project vital signs are the aggregate indicators of the overall health of a project
- We use 15 vital signs
  - Strategic
    - Strategy alignment, sponsorship, customer buy-in, technology viability, value-to-business, vendor viability
  - Tactical
    - Status of the critical path, milestone hit rate, deliverable hit rate, unresolved issues, cost-to-date, actual resources vs. planned resources
  - Environmental
    - High probability-high impact risks, overtime utilization, team disposition (effectiveness)

Project Vital Signs

1. Strategy alignment
2. Sponsorship
3. Customer buy-in
4. Technology viability
5. Value-to-business
6. Vendor viability
7. Status of the critical path
8. Milestone hit rate
9. Deliverable hit rate
10. Unresolved issues
11. Cost-to-date
12. Actual resources vs. planned resources
13. High probability, high impact risks
14. Overtime utilization
15. Team disposition (effectiveness)

Monitoring the Vital Signs

- The project manager needs to watch
  - The individual vital signs
  - The aggregate vital signs status (The “Project Health Report”)

Vital Signs Indicators

- Green light
  - All is well
  - Variance is acceptable
- Yellow light
  - Caution, trouble ahead
  - The vital sign has reached a level at which it will begin to have a negative impact on the project
- Red light
  - Danger, measurable impact on the project
  - May be beyond project manager's ability to recover

Strategy Alignment

- Does the project continue to fit with the currently stated organizational strategy
  - Fully aligned — Green
  - Somewhat aligned — Yellow
  - No alignment — Red

Sponsorship

- One of the most important and difficult signs to monitor
- The basic questions about sponsorship are:
  - Is the sponsor aware of their specific responsibilities? Discussed them with the PM?
  - Has the sponsor set aside sufficient time to be an effective sponsor?
  - Does the project manager have quick and easy access to the sponsor for resolution of important issues?
  - Does the sponsor meet routinely with the project manager to assess the status of various vital signs and project progress?

Sponsor Checklist

- We recommend using the sponsor checklist to assess this vital sign
- Discuss it with the sponsor
- If the sponsor is agreeable to its use
  - Agree on a customization for your project
  - Agree on an assessment process
- Vital signs for the checklist provided:
  - All items rated 3 or above — Green
  - One or two items rated < 3 — Yellow
  - Three or more items rated < 3 — Red

Sponsor Performance Checklist

Sponsor Performance Checklist	Rating
Rating: 1=Rarely 2=Sometimes 3=Most of the Time 4=Always	
1. Champions the project.	1 2 3 4
2. Timely approval of the project charter, plan, schedule, and budget.	1 2 3 4
3. Ensures sustained buy-in at key stakeholder level.	1 2 3 4
4. Champions the project and the project team.	1 2 3 4
5. Helps ensure timely availability of human resources when needed.	1 2 3 4
6. Helps resolve major policy and/or political issues.	1 2 3 4
7. Formally manages (oversees) the project scope.	1 2 3 4
8. Values the stage gate process.	1 2 3 4
9. Remains informed about the status of the project.	1 2 3 4
10. Provides regular feedback to the project manager and team on performance.	1 2 3 4

Customer Buy-In

- An assessment of the degree of *ongoing* buy-in
  - High degree of buy-in — Green
  - Medium degree of buy-in — Yellow
  - Low degree of buy-in — Red

Technology Viability

- An assessment of the viability of the technology infrastructure to support the project
  - Is the enabling technology available and viable for project development?
  - Will the technology remain viable as new scope is added into the system?
  - Will the technology escalate easily to meet the project's operational requirements?
  - Can it be supported by the IT organization?
  - Will the customers be able to adopt it?

  - High degree of viability — Green
  - Medium degree of viability — Yellow
  - Low degree of viability — Red

Value-to-Business

- Assumptions and realities may change regarding the project's value to the business
- This vital sign takes stock of how valuable the project remains to the business

  - High value-to-business — Green
  - Medium value-to-business — Yellow
  - Low value-to-business — Red

Vendor Viability

- Vendor viability can change as the project progresses
- This vital sign takes stock of the current vendor viability to support the project

– High viability	Green
– Medium viability	Yellow
– Low viability	Red

Status of the Critical Path

- This vital sign measures the percent variance in the critical path

  - Breach of < 10% — Green
  - Breach of 10% to 20% — Yellow
  - Breach of > 20% — Red

Variance

Variance = Current - Baseline

Percent variance = (Variance ÷ Baseline) X 100

Vital Sign	Baseline	Current	Variance	% Variance	Status
Critical path	150 days	172 days	22 days	+14.7%	Delay

Critical path variance = 172 days - 150 days = 22 days

Percent variance = (22 days ÷ 150 days) X 100

= (0.146) X 100

= 14.6%

Milestone Hit Rate

- This vital sign measures the variance of actual milestone completions from planned milestone completions. It can be measured in two separate monitoring cycles
  - To-date performance
    - Planned milestone completions, to-date, vs. actual milestone completions, to date
  - A shorter monitoring cycle--every two weeks
    - Planned milestone completions in the cycle vs. actual milestone completions in the cycle

  - Breach of < 10% — Green
  - Breach of 10% to 20% — Yellow
  - Breach of > 20% — Red

Deliverable Hit Rate

- This vital sign measures the variance of actual deliverable completions from planned deliverable completions. It can be measured in two separate monitoring cycles
  - To-date performance
    - Planned milestone completions, to-date, vs. actual milestone completions, to date
  - A shorter monitoring cycle--every four weeks
    - Planned milestone completions in the cycle vs. actual milestone completions in the cycle

  - Breach of < 10% — Green
  - Breach of 10% to 20% — Yellow
  - Breach of > 20% — Red

Unresolved Issues

- Unresolved issues represent holes in the project plan and, as such, can have significant negative impact
- The project manager should set dates for resolution of all issues
  - Any issue that remains unresolved 5 days after its resolution date should raise a yellow warning flag
  - Any issue that remains unresolved 7 days after its resolution day should raise a red warning flag

The Unresolved Issues Vital Sign

- This vital sign is measured by comparing the number of issues to the number of outstanding deliverables yet to be completed
  - No unresolved issues — Green
  - Unresolved issues < outstanding deliverables — Yellow
  - Unresolved issues > outstanding deliverables — Red

Cost-to-Date

- This vital sign is measured by computing the percent variance between the baseline cost-to-date and the actual cost-to-date

  - Breach of < 10% — Green
  - Breach of 10% to 20% — Yellow
  - Breach of > 20% — Red

For Organizations that Do Not Monitor Total Cost

- For organizations that do not monitor total cost, we recommend tracking the variance between planned effort (hours) vs. actual effort, to date
- We recommend that you use the following:
  - Team effort: The effort expended by the team to complete the project deliverables and tasks
  - Project management effort: The effort expended by the project manager to complete various project management activities
- We do not recommend that you include the effort expended by various managers to fulfill management duties for the project

Actual Resources vs. Planned Resources

- This vital sign has three measurements
  - The gap between the number of FTE team members actually working on the project vs. the number of FTE initially planned.
  - The gap between the skill levels of people actually assigned to the team vs. the skill levels used to develop the project estimates.
  - The amount of unplanned turnover--the number of team members who have left unexpectedly

The Actual Resources vs. Planned Resources Vital Sign

- This vital sign is measured principally by the variance in planned vs. actual FTE
  - Breach of < 10% — Green
  - Breach of 10% to 20% — Yellow
  - Breach of > 20% — Red
- In addition, in our experience:
  - Unplanned turnover of a core team member can cause the critical path to slip behind schedule by 4-6 weeks.
  - Unplanned turnover of a project manager can delay a project by 6-9 weeks.
  - The change of a sponsor can jeopardize the entire project.

High Probability, High Impact Risks

- Even with risk plans in place, carrying a large number of high-level risks is not healthy for a project
  - One to three risks — Green
  - Four to five risks — Yellow
  - Six to seven risks — Red
- A project that has more than seven high level risks has so many problems that vital sign monitoring may be futile

Overtime Utilization

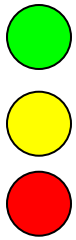
- Occasional overtime is a routine part of work life, but consistent overtime is a sign of deep, systemic problems caused by poor management practices

  - Overtime < 15% — Green
  - Overtime 15% to 25% — Yellow
  - Overtime > 25% — Red

Team Disposition (Effectiveness)

- This is an often neglected vital sign
- It is a qualitative sign, and difficult to measure.
  - A skilled and experienced individual should perform the assessment
  - Ideally, a perceptive project manager that walks the floor, talks with team members, and keeps lines of communication open
- Our vital sign is based on evaluations made with the Team Disposition Assessment tool

  - All items rated 3 or above
  - One or two items rated < 3
  - Three or more items rated < 3



Green

Yellow

Red

Team Disposition (Effectiveness) Assessment

Team Disposition (Effectiveness) Survey	Rating
1. Goals: Clearly communicated to the team; shared by all; all care about the goals, and feel involved	**1 2 3 4**
2. Participation: All are involved; all are listened to	**1 2 3 4**
3. Problem solving: When problems surface, the project manager involves the team to help diagnose the root causes before proposing actions; remedies attack basic causes	**1 2 3 4**
4. Decision making: Consensus sought and tested; various points of view appreciated and used to improve decisions; decisions (when made) are fully supported	**1 2 3 4**
5. Trust: Members trust one another; they reveal to group what they would be reluctant to expose to others; they respect and use the responses they get; they can freely express negative reactions without fearing reprisal	**1 2 3 4**
6. Creativity and growth: Team members are flexible, seek new and better ways	**1 2 3 4**
7. Leadership: Project manager is well equipped to manage the team and does it professionally	**1 2 3 4**
8. Professional growth: There are ample opportunities for individual growth--both through work experience and education and training programs offered by the organization	**1 2 3 4**
Rating: 1 = Rarely 2 = Sometimes 3 = Most of the Time 4 = Always	

Project Health Report Examples

- Example 1
  - Seven vital signs selected
  - Vital sign thresholds and weights established
  - Overall project vital sign thresholds established
- Example 2
  - A fixed-price contract
  - Variance thresholds for cost-to-date have been tightened
- Example 3
  - A Zone I project
  - All of the tactical vital signs selected, to ensure close monitoring of performance

Project Health Report--Tactics Example 1

Project Vital Sign	Variance	Value	Assessed Value
1. Status of the critical path (breach)	<10% 10% to 20% >20%	0 1 2	
2. Milestone hit-rate (breach)	<10% 10% to 20% >20%	0 1 2	
3. Deliverable hit-rate (breach)	<10% 10% to 20% >20%	0 2 4	
4. Unresolved issues	No issues Issues < Deliverables Issues > Deliverables	0 1 2	
5. Cost-to-date (breach)	<10% 10% to 20% >20%	0 1 2	
6. Actual resources vs. planned resources (breach)	<10% 10% to 20% >20%	0 2 4	
7. High-probability, high-impact risks	1-3 Risks 4-5 Risks 6-7 Risks	1 3 4	
0-5 = Green 6-10 = Yellow Greater than 10 = Red		Total	

Project Health Report--Tactics Example 2

Project Vital Sign	Variance	Value	Assessed Value
1. Status of the critical path (breach)	<10% 10% to 20% >20%	0 1 2	
2. Milestone hit-rate (breach)	<10% 10% to 20% >20%	0 1 2	
3. Deliverable hit-rate (breach)	<10% 10% to 20% >20%	0 2 4	
4. Unresolved issues	No issues Issues < Deliverables Issues > Deliverables	0 1 2	
5. Cost-to-date (breach)	<10% 10% to 20% >20%	0 2 4	
6. Actual resources vs. planned resources (breach)	<10% 10% to 20% >20%	0 2 4	
7. High-probability, high-impact risks	1-3 Risks 4-5 Risks 6-7 Risks	1 3 4	
0-5 = Green 6-10 = Yellow Greater than 10 = Red		Total	

Project Health Report--Tactics Example 3

Project Vital Sign	Variance	Value	Assessed Value
1. Status of the critical path (breach)	<10% 10% to 20% >20%	0 1 2	
2. Milestone hit-rate (breach)	<10% 10% to 20% >20%	0 1 2	
3. Deliverable hit-rate (breach)	<10% 10% to 20% >20%	0 2 4	
4. Unresolved issues	No issues Issues < Deliverables Issues > Deliverables	0 1 2	
5. Cost-to-date (breach)	<10% 10% to 20% >20%	0 1 2	
6. Actual resources v. planned resources (breach)	<10% 10% to 20% >20%	0 2 4	
7. High-probability, high-impact risks	1-3 Risks 4-5 Risks 6-7 Risks	1 3 4	
8. Overtime utilization	<15% 15% to 25% >25%	0 1 2	
9. Team disposition (effectiveness)	Highly motivated Somewhat motivated Low level motivation	0 2 4	

Lines of Command and Frequency of Reporting

- It is difficult to offer a universal solution as to when to escalate reporting of variance in specific vital signs
- We recommend setting thresholds for escalation
  - Work with your sponsor, key functional managers, and team to define thresholds appropriate for your own situation

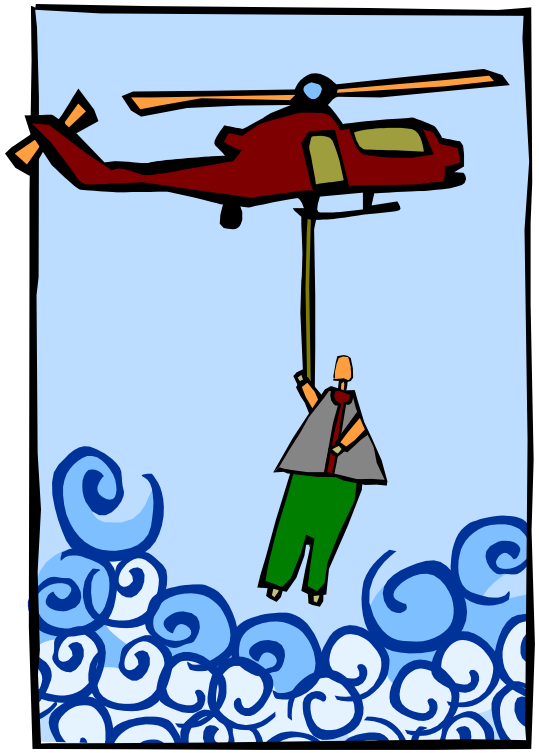
Suggested Thresholds for Escalation of Vital Signs Reports

- Variance up to 10%
  - The individual team member is responsible
- Variance of 11% to 15%
  - The project manager takes responsibility
- Variance of 16% to 20%
  - Escalate the problem to the functional manager
- Variance of 21% to 25%
  - Escalate the problem to the sponsor (don't wait for the next scheduled meeting)
- Variance above 25%
  - Convene a meeting of the executive steering committee to decide on the fate of the project
  - If there is no steering committee, the sponsor makes the next set of decisions

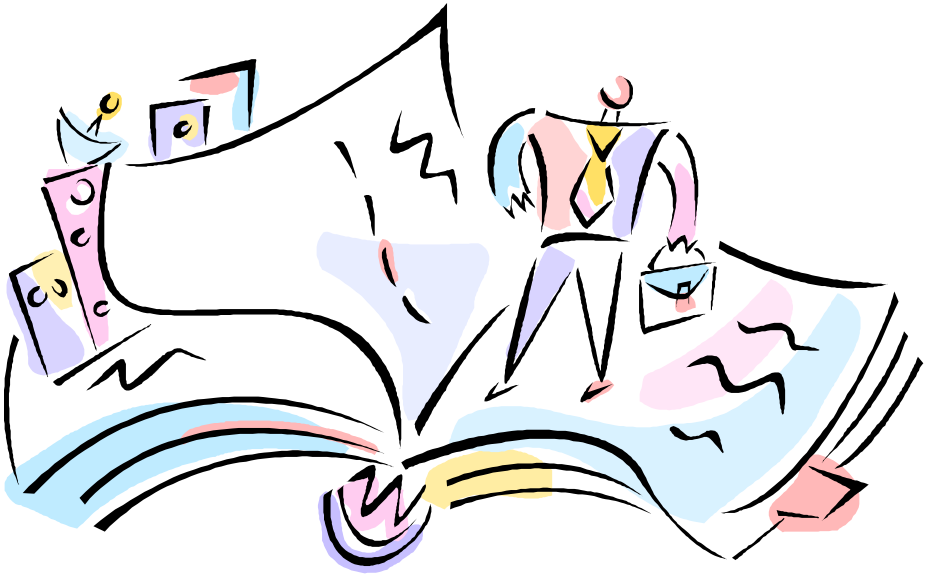
Early Warning Size Exercise

- Develop a list of 5 “vital signs” that make sense in your culture
- Develop a list of possible interpretations
- Timing: 15 minutes

Recovery Plan



Review and Revise Due Diligence (Pre-Launch)



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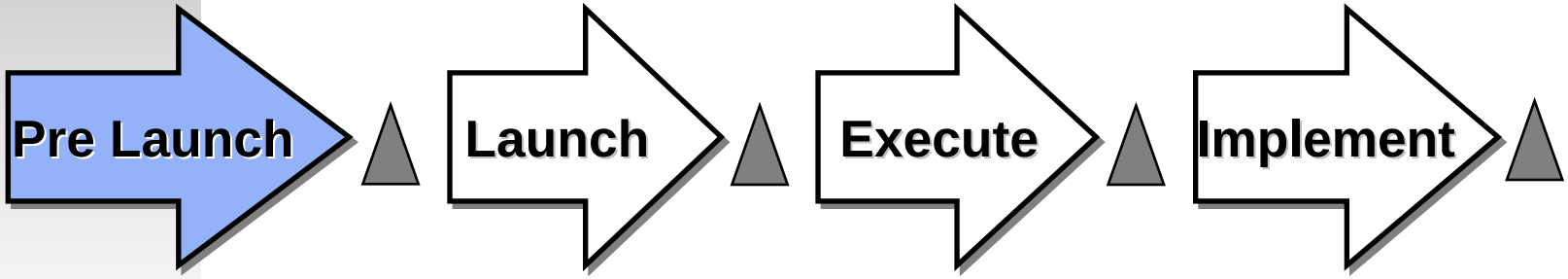
Pre-Launch Stage



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Pre-Launch

Project Charter

- ✓ 1. Project Description
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- 6. Impact Assessment
- 7. Constraints & Obstacles
- 8. Stability
- 9. Issues
- ✓ 10. Risk Assessment
- ✓ 11. Scope, Size
- ✓ 12. Project Charter

✓ = Recommended for all projects

Due Diligence (Pre-Launch)

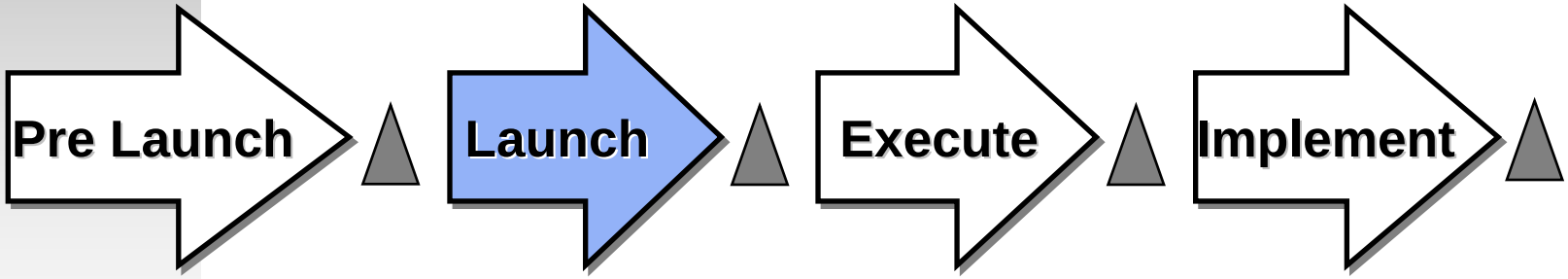
- Is there a useful project description?
  - Clear objectives
  - Critical success indicators
  - Shutdown conditions
- Are the priorities of the key stakeholders aligned?
- Is the complexity of the project appropriately figured into plans, estimates, and schedules?
- Is the project in compliance with existing policies, standards, and procedures?
- Are there impacts from other projects or systems causing problems?
- What are the risks that the project faces?
- What are the known issues?
- Is there a useful scope statement?
  - Inside scope
  - Outside scope

Exercise

Review and Revise Project Plan (Launch)

Project Process Architecture™

Launch Stage



Launch Steps

Launch

Plans & Estimates

- ✓ **Task Plan**
- **Prototyping Plan**
- **Scope Management Plan**
- ✓ **Organization Plan**

- **Staffing and Training Plan**
- **Communication Plan**
- **Project Notebook**
- ✓ **Estimates**

✓ = **Required for all projects**

Characteristics of a Sound Project Plan

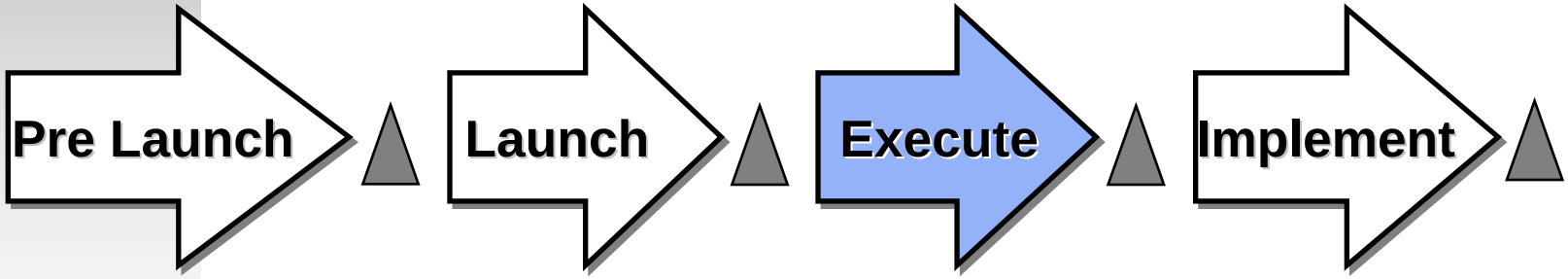
- It has clearly defined objectives
- It has clearly defined scope
- It has a well defined scope management plan
- It has a well defined deliverables list
- It has a comprehensive task list
- It has an explicit task network
- It has clearly defined responsibilities
- It has a well defined organizational structure
- It has a communication plan
- It has a well defined team member training plan

Exercise

Review and Revise Project Schedule (Execute)

Project Process Architecture™

Execute Stage

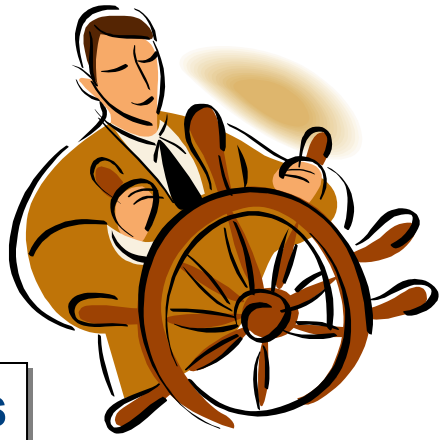


Execute Steps

Execute

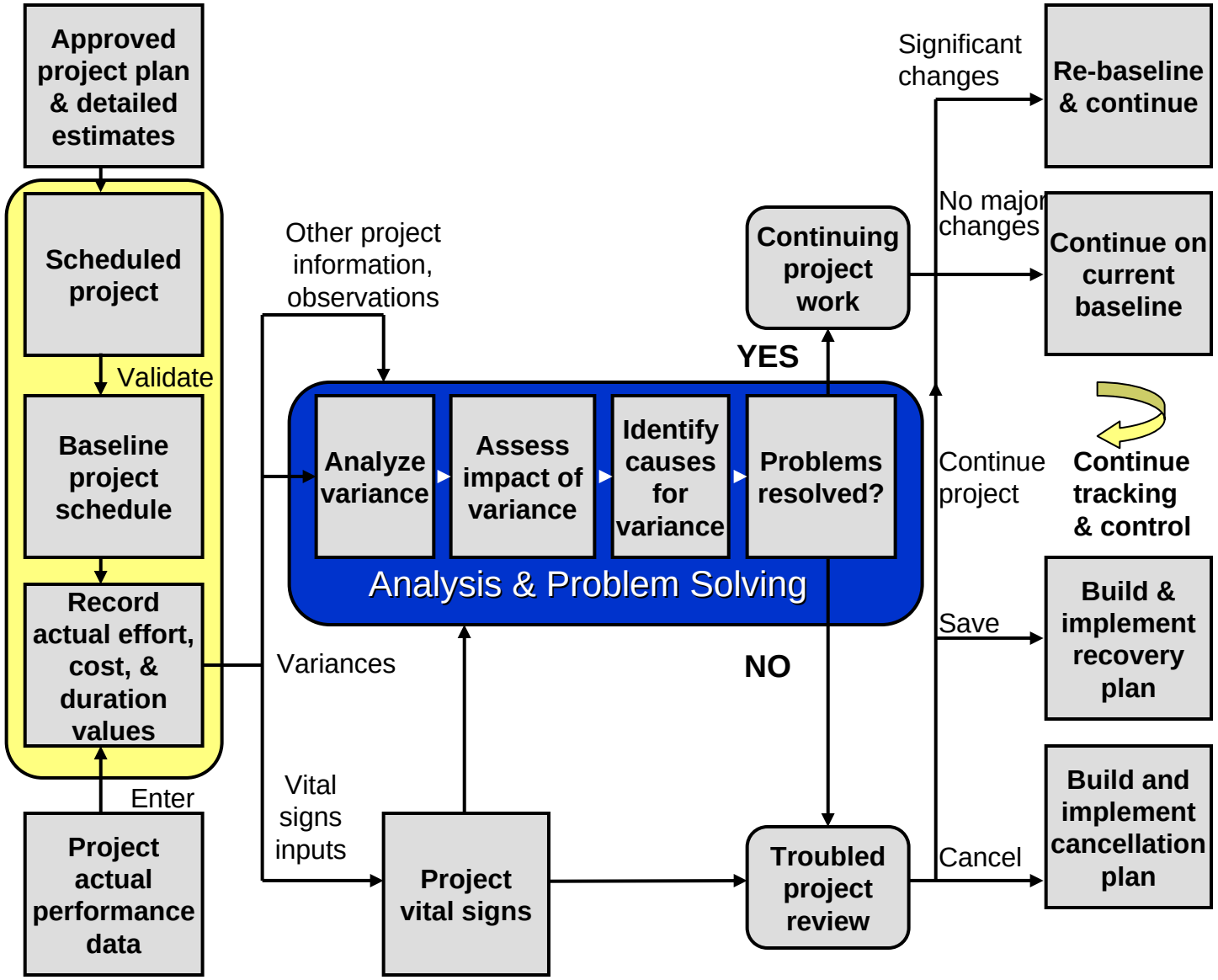
Schedule, Track & Control

- ✓ **Schedules**
- ✓ **Progress Reviews and Project Control**



✓ **= Required for all projects**

Project Scheduling and Tracking Process



First… A Quick Check

- Each team member calculates work hours available for project duration
- Compute total hours available for team
- Compute total number of effort hours needed
- Compare needed hours to available hours

Schedule Review Checklist

- Is there a project schedule?
- Is the level of detail appropriate?
- Are the tasks dependencies depicted?
- Are the lags depicted?
- Are the milestones depicted?
- Are the resources over allocated?
- Is the schedule updated frequently?
  - Are there start dates in the past?
  - Is the remaining effort of tasks updated?
  - Are there numerous constrained dates?

No Percent Complete

Task Behind Schedule

- If a task on the critical path is behind schedule
  - Discuss with the team member whether resolution of issues, fewer interruptions, additional help, and/or overtime work can help
  - Open a look-ahead window and determine whether acceleration of any future critical path tasks can help make up for lost time

Rework Reserve

- Track and manage the rework being done by team members
- Two challenges that you will face are:
  - It is not always easy to differentiate between work and rework
  - Team members may feel that the recording of this data will reflect on their skills and competencies

Four Important Rules of Scheduling

1. Team members own their schedules and are responsible for them
2. All problems and delays are reported to the project manager promptly and forthrightly
3. Deliverable completions should be crisp and clean
4. Revise schedules when necessary, but do so formally and distribute the results broadly

Exercise

Progress Review

Progress Review Meetings

- Are progress review meetings conducted at the appropriate frequency?
- Is a standard reporting template used?
- Do the appropriate people attend and participate?
- Does the meeting have the correct focus?

Team Update Focus

- Traditional focus
  - Look back
- Desired focus
  - Look ahead

Project Status

- In order to accurately assess the status of a project, the project manager must focus on:
  - The current status
    - Where the project is now
    - We suggest using project “vital signs”
  - The future
    - A look into the near future to see if the team will be able to progress as planned
    - We suggest using the “look-ahead window”

Worst Case Scenario

- Evaluate
  - The minimal scope that must be delivered to the customer
  - The maximum amount of money the customer is willing to spend on the project
  - The date the project must be finished and implemented
  - The level of quality below which the product will be unacceptable to the customer

Project Attributes and Subcomponents

- Schedule
  - Estimates
    - Effort
    - Duration
  - Calendars
    - Organization
    - Team members
- Scope
  - Deliverables
    - Must have
    - Should have
    - Nice-to-have
  - Features
    - Must have
    - Should have
    - Nice-to-have
- Budget
  - People
    - FTE
    - Skills
  - Support infrastructure
    - Hardware
    - Software
    - Telecommunications
    - Facilities
    - Support services
- Quality
  - Product quality
    - Deliverables
    - Features
  - Quality of life
    - Team members

Dealing With Deadlines Example

- Schedule Review
  - 5 days are gained through tighter estimates
  - 3 days through team calendar management
- Scope Review
  - 10 days are gained by dropping certain deliverables and features
- Budget Review
  - 2 days are gained through budget for additional human resources
- Quality Review
  - 4 days are gained through product quality changes
  - 3 days are gained through overtime, impacting quality of life

Exercise

How to Kill a Troubled Project

Deploy Cancellation Plan

- The objectives of the cancellation plan are to:
  - Cancel the project efficiently
  - Ensure that the people involved with the project are minimally impacted
- Suggested steps are:
  - Review with HR
  - Review with legal
  - Make the official decision to cancel
  - Develop the cancellation plan
  - Communicate to all stakeholders
  - Cancel the project
  - Implement the project component salvage plan
  - Capture lessons learned
  - Open access to the sponsor

Successfully Identifying and Canceling a Troubled Project

- Key factors in identifying and canceling a troubled project are:
  - A change in thinking that canceled projects carry a stigma
  - Carefully defined performance thresholds--runaway and shutdown conditions
  - A systematic process for identifying problems early in a project's life cycle
  - A systematic process for canceling projects
  - A process for capturing key lessons from the cancellation process and improving future performance

Words for the Wise Project Manager

- You are a leader: Team members take their cues and direction from your explicit and implicit actions
- Be mindful of what you express and convey in an implicit manner, especially in stressful situations
- Listen to the grapevine and don’t ignore any damaging rumors

Thank You!