IT PROJECT MANAGEMENT

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Tracking Project Performance

Planning Project Metrics

- Set your project goals.
- Use your leadership capabilities, project management skills, influence, and problem-solving skills to meet those project goals.
- Create project metrics to tell you whether you've reached those project goals.
- Use your communication management plan to disseminate that information to your project stakeholders.

What are metrics?

Your project metrics are the processes, tools, and techniques that you use to measure the progress of your software project. The reason measuring your project progress is so important is because metrics enable you to proactively recognize whether

- You’re on track with your software project
- You’re ahead of or behind schedule
- You’re under or overbudget
- You’re performing to the quality standards defined by your organization
- Your project team members are performing to their maximum ability
- The potential risks you’ve identified have materialized and could potentially adversely affect the project
- You need to intervene to bring the project back on track

Establishing project goals

- Before you establish the project goals for your software project, you should become familiar with the goals of the organization. A good software project plan supports and aligns with the strategic goals of the organization.

Planning for project metrics

- **Benchmarking:** This process compares your current project activities to those performed in other similar projects.
- **Pareto (pa-ray-toh) charts:** These are histograms (or bar graphs) that display project issues and rank order of the causes of those problems.
- **Control charts:** Charts that show processes that are not reliable or stable.
- **Project audits:** Audits that are used to determine whether project processes conform to defined parameters.
- **Procurement metrics:** Metrics that are used to evaluate contractors and vendors.
- **Earned value management:** A tool that allows you to ascertain whether you're on schedule, within budget, and on track with your software project

Determining realistic project milestones

Project milestone list should consist of realistic, attainable milestones such as the following:

- Contract signed
- Project team in place
- Phase 1 development complete
- Unit testing complete
- Project acceptance sign-off
- Final payment received

Implementing a Tracking Plan

Using project baselines

Project baseline describes what you should be delivering, so it makes the most sense that you use the WBS and the project scope statement as your project baseline.

- Programmers resign in the middle of the project, creating changes in resource allocation.
- Vendors don’t meet their deadlines, causing you to push back some of your own deadlines.
- Contractors create unexpected costs that must somehow miraculously be covered by your project budget.
- Risks that were unknown prior to creating your project plan suddenly materialize.
- Technology becomes obsolete, necessitating a change in methodology

Stressing accuracy in reporting

- A solid communication plan spells out how specific types of information should be spread to stakeholders.

Table 15-1	Performance Reporting
Stakeholder	***Communication***
Executives	Presentation at steering committee meetings; status summary reports; milestone reports; risk summaries
Client	Cost reports; budget variance reports; schedule reports; resource reports; budget reports
Project Team	Status reports; schedule change reports; issue review meetings; project team meetings
Functional Managers	Project team performance; milestone reports

Don’t be tempted to misrepresent the facts; it will catch up with you in due course.

It’s imperative that you are completely accurate in all your performance reporting for the following and a host of other reasons:

- Your client, executives, team, and other stakeholders will appreciate your integrity and come to count on you as someone who tells it like it is.
- The truth will always catch up with you sooner or later. Wouldn’t you prefer to be the one to give the facts instead of telling a tale and being exposed later? Who would trust you then?
- Your truthfulness demonstrates your leadership ability. If your team members know that you lie, then why should they be honest about their own progress (or lack thereof) when they provide status reports? Your team will follow your example of integrity.
- The performance reporting you complete will be used to make other project decisions regarding budget, cost, scope, schedule, resources, and so on. It’s crucial to the integrity of the project that your performance reporting be completely accurate at all times so that you and others don’t make bad decisions based on inaccurate data.
- Being inaccurate in some of your performance reporting may result in schedule slippage, cost overruns, scope creep, and the immediate need to update your resume.

Using a Project Management Information System

You can use PMIS software to do the following:

- Create performance reports, resource reports, tracking reports, status reports, and progress reports
- Schedule resources and view resource constraints
- Create a project baseline
- Track project progress
- Track and report on project issues and risks
- Organize and schedule tasks
- List task predecessors and successors
- Publish and share project information with your project team and other stakeholders
- View project calendars, charts, and network diagrams
- Perform other project tasks or calculations, depending on the specific PMIS that you use

Tracking Project Performance

Ahead of or behind schedule

Over- or underbudget

Within the confines of your scope baseline

Meeting the requirements of your quality management plan

Creating Pareto charts

A Pareto chart is a quality control tool that you can use to track items or processes that don't conform as they should. The logic behind this tool is that, usually, a small number of causes (20 percent) create a large number (80 percent) of the issues in a project. Pareto's rule says that 80 of them are the result of 20 of the causes. Some typical causes of problems in a software project include

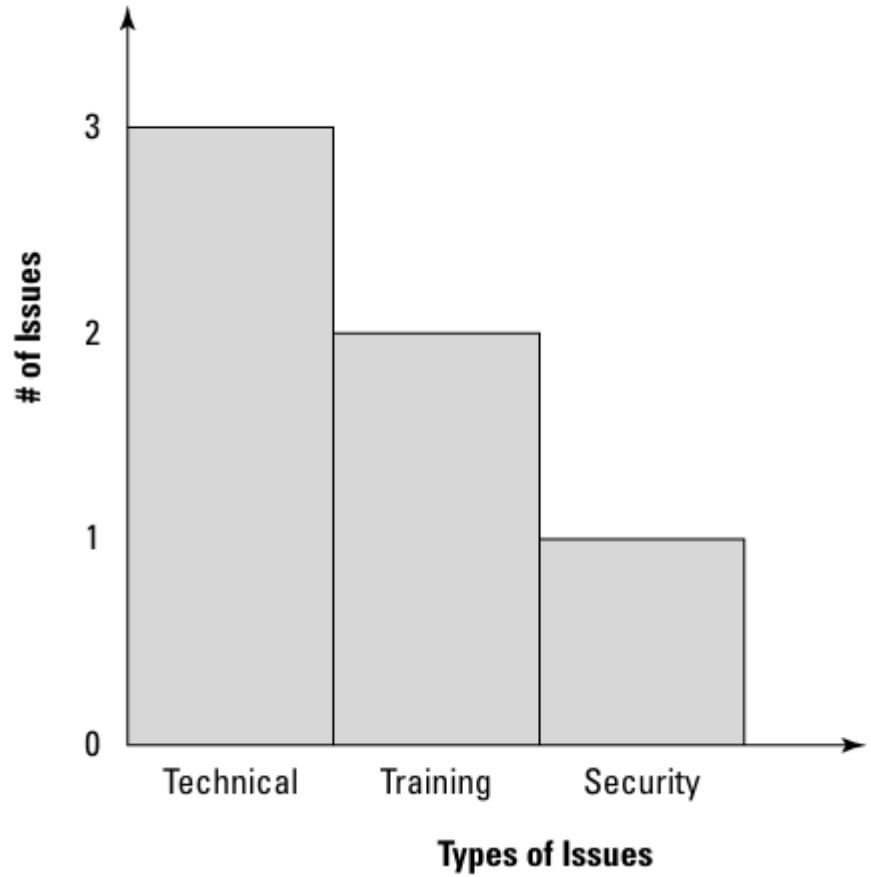
- Inadequate software testing
- Vendor noncompliance
- Improper end-user training
- Lack of defined scope
- User error
- Technical issues
- Technology becoming obsolete

CASE STUDY

List of issues, causes, and ranks for a software implementation in which physicians and nurses enter their patients' medication and laboratory orders into a medical software system. These problems and causes are related to the testing phase of the project, but you can use the Pareto chart to review the causes of problems in other areas of your project.

Table 15-2 Data Collection for Creating Pareto Chart

Issue	*Cause and Explanation*	*Rank*
Nurse could not find chest x-ray order.	Training: End user was not looking in the proper place for this order.	2
Lab test report did not print.	Technical issue: Printers not set up correctly.	1
Nurse Manager requests a patient summary report to be written.	Training: This report is already in production. Nurse Manager needs training on how to find the report in the system.	2
Physician reports that her computer screen is freezing up while placing orders.	Technical issue: Programmer needs to make configuration change.	1
Nurse states that patient report is not printing.	Technical issue: Report is printing but the printer is configured to print at the incorrect nursing unit.	1
Unit Secretary cannot locate a patient in the system.	Security: Unit Secretary doesn't have the appropriate security clearance to see this patient's information. Programmer will make change in security setting.	3



Creating control charts

A control chart can assist you in determining whether processes fall above or below a specified control area.

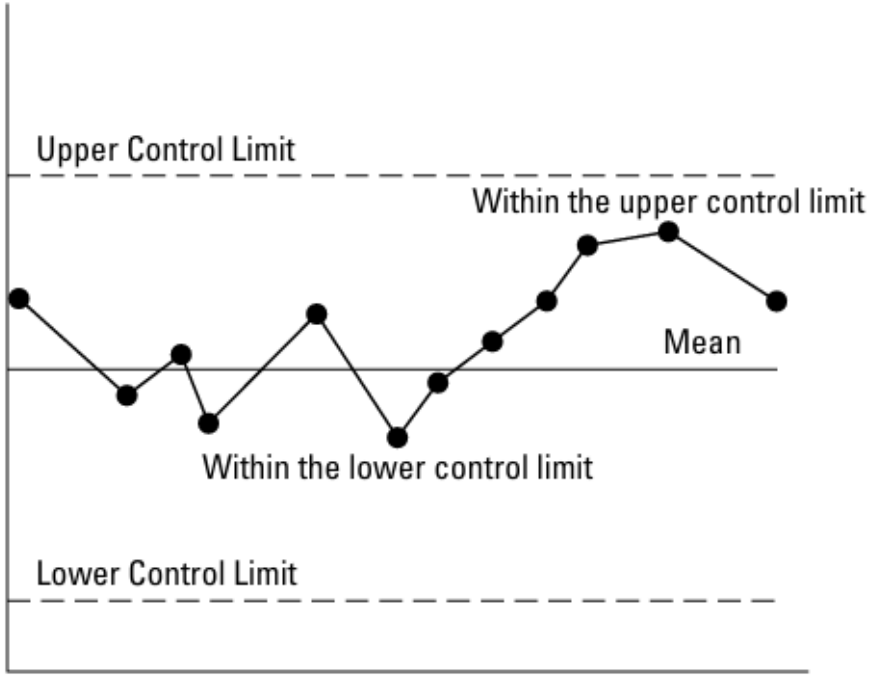
The control chart contains three horizontal lines:

- One line represents the acceptable upper limit.
- One line represents the acceptable lower limit.
- One line, in the middle, represents the mean.

The data points that you plot outside of the upper and lower limits represent issues that may be the result of special causes. After you identify a special cause, you can attempt to eliminate it so that it doesn’t result in future errors.

Control charts help you determine variation of processes and diagnose problem areas in projects. The benefits of control charts are (nearly) endless:

- To show whether schedule variances are within acceptable limits.
- To identify the volume of scope changes.
- To evaluate the number of days of variance in your schedule (are you 22 days behind where you said you'd be?).
- To give a visual representation of dollars spent outside of budget.
- To show which problem items were found during individual phases of system testing.
- After the product is complete, you can use a control chart to show whether the number of configuration issues discovered during unit testing is outside of acceptable limits.



Communicating Project Performance

Automating project communications

Even though you may not be able to — or even desire to — eliminate all informal and formal communications, you can automate some of your software project communication. Here are just a few reasons why you should:

- To save time
- To enable stakeholders to receive communications at regularly scheduled intervals that they can anticipate
- To provide standardization in automated project communications (if you provide templates, some forms of communications will follow a standard format that excludes unnecessary information)
- To reduce the amount of noise in communications (if you can provide online reports instead of presentations in meetings, you avoid long meetings filled with side conversations and other interruptions)

Some examples of automated project communications are

- Project status reports, sent via e-mail, that are always due by 1:00 p.m. on Wednesdays, to a specified number of stakeholders.
- Project event alerts for certain predefined project events, such as team meetings or critical issues update meetings.
- Automatic pages to remind stakeholders of project activities. For example, a team member may receive an automatic page if he is past his due date on his input to an issue resolution.
- Automatic e-mail alerts when a project schedule (or other predefined project management tool) has been updated. Only the stakeholders affected by the change would receive the e-mail. For example, a stakeholder would receive an e-mail alert if a change control request has been approved for his area.
- Project information that is automatically sent from PMIS software to a lessons learned document.

Sharing good and bad news

Communicating bad news

- Never ever share bad news in an e-mail. If you have some negative news to relate to your team or to other stakeholders, do this in person if possible.
- Of course, if your project team contains members from all over the world, that may be impossible. But, if possible, give bad news in person, or at least on the phone.
- If someone is absent when you deliver bad news, be sure that you follow up with that individual as soon as possible.

Communicating via e-mail

- People can’t see your body language or that smile on your face when you communicate via e-mail. When someone reads an e-mail from you, he or she can only guess what you really meant if you are not perfectly clear.
- Just say what you have to say in a professional manner and be concise, as well as unambiguous.
- If you try to make a joke in an e-mail and the receiver doesn’t understand what you’re trying to say, or doesn’t get your sick sense of humor, the results are invariably the same: misunderstandings, resentment, and hurt feelings.
- It’s safer to just consistently maintain a sense of professionalism in your communications — after all, you get paid to be a software project manager, not a comic.

Communicating good news

- When you communicate good news, it doesn’t matter as much which plat form you use. You should still be clear, concise, and unambiguous, but positive messages are almost always well received no matter what form of communication you choose.
- The one area where you may have a problem with good news is leaving some one out of the loop or forgetting to give credit to someone who deserves it. Be generous with your praise, and be sure to follow up with individuals who, for whatever reason, missed your announcement.