



Measuring Project Health

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Project Reporting

Every Project Manager is regularly asked how the project is going. “How the project is going” is a very broad question. The answer may go:

“Well, we are just under budget but we have another two months to go which is a month more than we planned but that is OK because the scope blew out a bit early on and that was all approved. It has taken more hours than we expected to complete the current phase, but we worked over the Christmas break, which was expensive, but we used lower level cheaper resources so it didn’t cause too much problem.

Given everything, I think we will probably be all right.”

What does it mean? It sounds like an elaborate smoke screen and it quite possibly is. On the other hand, perhaps the Project Manager doesn’t understand how the question should be answered. Usually the person asking the question has no specific measurement in mind. They just want a warm and fuzzy feeling.

It is unlikely a response to a question such as:

“What particular aspect of the project are you interested in?”

Would shed any light on what was behind the question – unless of course the person was an accountant.

Project Metrics

There is a way to provide a project management status report. As an analogy, think about the criteria that a doctor might use to monitor health. He or she checks pulse, temperature, blood pressure etc. Similarly, a project needs to measure a mix of criteria.

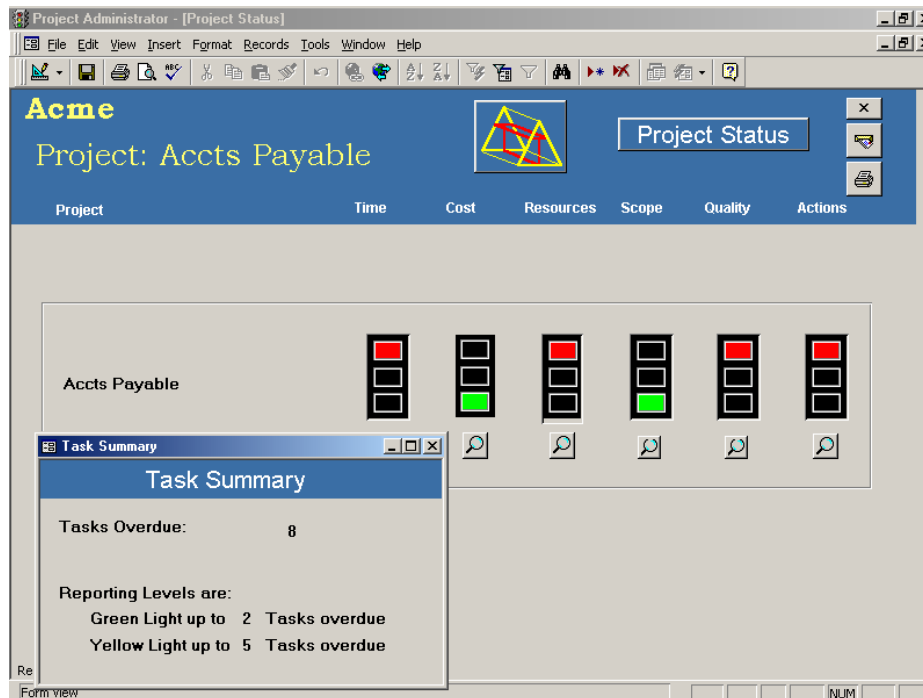
If you distil the ground covered in methodologies and literature on Project Management, there are six criteria that constantly emerge. They are:

- Time (How are we going against schedule)
- Cost (How are we going against budget)
- Resources (How much time are we spending on the project)
- Scope (Is the scope creep in line with expectations)
- Quality (Are we reviewing and fixing quality problems)
- Actions (Do we have action items outstanding)

By looking at the performance against these six criteria as a project dashboard, a view of the parts of the project that are OK and the parts that are not OK can be formed.

Performance Metrics

In this white paper, we use an example set up in Project Administrator software that measures these six criteria. It can be viewed on this site (www.projectperfect.com.au/pa.htm). Project Administrator measures the six parameters and presents the results on one screen as traffic lights or a project dashboard. If they are all green, the project is performing satisfactorily in all areas. If one or more are yellow, there is a potential problem. If any are red, it indicates the area needs urgent attention.



Presenting reams of output regarding the project status is probably going to confuse rather than enlighten the organisation. Presenting in a simple dashboard or traffic light display focuses attention on the areas that need attention. An hour of analysis to establish all is well in a particular area is 59 minutes 55 seconds of wasted time if a traffic light can provide the answer.

Project Metrics

Before you start you need to set the rules. For example, you might decide that as far as cost is concerned, you have a budget of \$100k over 10 months and will spend \$10k per month. After 6 months, you should have expenditure of \$60k.. Given that it is not an exact science, you might decide if you are under 105% of budget to that point, the traffic light should still be green. If between 105% and 115% it is yellow and over 115% it is red. You can set these dashboard metrics before you start the project (or revise them at any time during the project) to manage the colour changes in the lights.

This is not to say they should be managed to always stay green!!! The intention is to agree guidelines up front in conjunction with the Sponsor, and manage to those. In that way everyone with an involvement in the project can see the status and feel comfortable that what they see reflects the progress against previously agreed parameters.

Project Time Line

The most common tool for managing a project is the schedule. Are we on time? At any point in a large project, there will probably be one or two tasks behind schedule and an equal number ahead of schedule. By setting parameters as to the number over schedule for the traffic lights to change, you can present the performance against schedule as a set of lights.

For example, it might be agreed with the Sponsor before the project begins that if the number of tasks overdue is greater than 2, the light turns yellow. If over 5 the light turns red.

Project Cost Management

It is not sensible to monitor budget in total. If the budget were spent half way through a project, we would suddenly be in trouble with no warning that the problem was occurring. For this reason, we need to create a cash flow for the budget. Typically this is our estimate month by month of expenditure.

By calculating the expected expenditure versus actual expenditure at any point, we can calculate how we are performing against our budget. This requires some special handling if accrued costs are involved.

Project Resources

Just as we have a cash flow for money, we can do a project human resource projection. To do this we need to estimate how many man-days per period will be used on the project. By comparing that to timesheets, we can work out if we are spending more or less time on the project than estimated.

This technique does not measure trade off's regarding the quality of the resources. The quality will be largely covered by the budget. If less skilled resources are allocated to the project, the cost will be lower and consequently the expenditure against budget will be less. It may however require longer to complete the work, or more resources may be needed.

If higher skilled resources are used, the budget may be exceeded but the work completed in a shorter time. It may even be a sensible decision to use more, lower skilled resources to achieve the same objectives. The decision is usually driven by the availability, cost and time to complete the task. This is all about project human resource management.

Parameters can be set so that if the time spent is on schedule, the light is green. Up to x% over it is yellow, and over x% red. If there is a lag between timesheets being completed and able to be accrued, it may be beneficial to set limits for the lights under 100%.

Project Scope

Every project will have some scope changes. A weakness in most project scope management is that scope changes are not monitored. Approval is often verbal and not recorded.

A better way is to admit the blindingly obvious at the planning stage – there will be scope changes, and we need to allow for them. The next step is to put in place a tracking system with approvals. At the start of the project, estimate how much scope

increases are likely to be as a percentage of the estimated budget, and as each increase is approved, monitor the total scope creep.

In the early stages, it may be prudent to leave the level for lights to change from green to yellow at a lower percentage of the estimate. For example, you might set the level at 40% so that there is warning if you suddenly have unexpected scope growth. Alternatively, it can be treated as for cost and resources. Scope creep can be scheduled over the life of the project.

Project Quality Management

It would be wonderful if we could create a magical program that looked at deliverables and reported on quality. Unfortunately, that will have to wait for technology to make a quantum leap. We do however have to produce a quality plan for the project.

One way to monitor quality is to set up a quality assurance project plan with quality events at the planning stage. These are activities that can be undertaken to check quality such as a walkthrough, or an inspection of a document, or testing of a particular component. As each of these events is completed, we can list action items flowing from the activity. For example, after a document inspection, we might have two action items. The first is to summarize the key points in the executive overview, and the second to verify findings in a particular section with the departmental manager concerned.

We now have a measurement. By checking the number of Quality Action Items outstanding, we can report on quality. For example, if we think that 5 action items resulting from completed Quality Events is reasonable, we might set the light to change to green at 5. Red might be 8 items.

Project Action Items

The final parameter is Action Items outstanding. Many situations in a project generate action items.

- They could be generated by identification of a benefit. There needs to be an action item to follow up the benefit delivery.
- It could be generated by a risk where certain actions are required to mitigate the risk.
- It could be an issue that needs action items to resolve.
- It could be a project review where actions on recommendations are to take place.

Unfortunately, in many projects there is more focus on identifying a problem (Issue, risk, assumption etc.) than taking action to address the problem. One of the most important attitudinal changes a project manager can bring to a project, is to shift the focus from identifying problems, to creating action items for every problem. No issue should exist without at least one action item to address the issue.

Taking this a step further, an action has three parts. Someone, has to do something, by a particular date. Someone means one person. It does not mean two people or a team. Immediately more than one person is responsible, the finger pointing starts. "I thought he was doing it!" Better make one person responsible for the task even if they have to recruit others to help.

The key to monitoring the actions is to determine how many are overdue. You might choose to take a hard line and say if any action items are overdue the light turns red. Alternatively, you might choose to allow 5 overdue to show a yellow light and over 5 a red light.

Project Dashboard - Conclusion

There is a saying that if it cannot be measured, it cannot be managed. Traditionally, projects have used schedules and budgets to monitor progress. This only provides part of the answer. It does not address the other variables. Just because a project came in on time and budget does not mean it is a success. The deliverables may be of poor quality, and there may be dozens of outstanding issues. A much broader view is required.

On another level, there needs to be a simple way to collect the data. Mechanisms need to be put in place that automates the collection of information. You do not want to bury the project team in data collection and analysis. Any data collection should be an extension of what the project team normally do, rather than a separate exercise.

By focusing on these six areas as a project dashboard, a snapshot of the project health can be viewed. Using a technique such as six traffic lights, you can see the status of a project. It is a technique that will appeal to both business and IT management. Whilst it does not take away all responsibility for success, it provides a tool to focus on problem areas, and to illustrate to those concerned how the project is progressing.

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Project Perfect sell “Project Administrator” software, which is a tool to assist organisations better manage project risks, issues, budgets, scope, documentation planning and scheduling. For more information on Project Administrator or Project Management visit www.projectperfect.com.au