PS&J SOFTWARE SIX SIGMA

Measured Managed and Controlled Project Performance

Contact us at: 201-947-0150; 201-358-8828; Quality@SoftwareSixSigma.com

Improvement Planning

PS&J Software Six Sigma kicks off the improvement planning process with an informal assessment of the organization's current capability. We map out "as is" development process, collecting any existing process performance data and supplementing the existing data as necessary with anecdotal data derived from an interview process. Our assessment findings are used to identify organization strengths and weaknesses and to derive a process capability model that captures the economics of software development at the organization.

The process capability model includes estimates of productivity, product quality, and cost of quality and captures the relationships between these quantities in quantitative form. The process capability model provides the basis for projecting savings, deciding which improvements should be funded, and estimating the potential return on the improvements. Use of the model allows setting quantitative process improvement targets that are directly related to business goals.

Once the model is in place, PS&J Software Six Sigma works with the management team to set SMART (Specific, Measurable, Aggressive & Achievable, Relevant to Business, Time-Bound) improvement goals. The goals typically cover a one-year period. These goals are the next input to the improvement planning process.

After the management goals are set, PS&J Software Six Sigma facilitates an improvement planning workshop that builds a plan to meet management's goals. The workshop provides a foundation for the introduction and application of measurable process improvement practices within their organization, while helping avoid the typical pitfalls of model-based software process improvement.

The planning team typically includes process owners, all members of the staff responsible for the process improvement activity as well as the project managers, and some members of the senior technical staff selected for their influence and technical leadership qualities.

This workshop process allows the team to identify, prioritize, and establish a consensus about the opportunities for improvement that have the best chance at meeting management's goals and provide the best overall return on investment. The team creates an overall plan for the year and a detailed plan for the next quarter. The plan includes:

- clearly defined roles and responsibilities for all participants
- tasks
- required resources
- estimated costs
- detailed schedule
- predicted returns
- risk identification
- cost/benefit analysis
- quarterly improvement targets

The team then produces a presentation summarizing the plan. The workshop concludes with the team presenting the plan to management for approval. The sponsors have an opportunity to review the plan

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and to ask questions during the presentation. Sponsoring management's approval of the plan defines a commitment between all parties.

The plan is used to manage the process improvement effort like a project. Progress is tracked at weekly status meetings and corrective actions are taken whenever actual results deviate from planned values. At the end of the quarter there is a post-mortem. Following the post mortem, a detailed plan for the next quarter is developed. Sponsoring management is briefed on progress to-date and plans for the next quarter at a status meeting.

Implementing a metrics framework at the start of a process improvement initiative allows an organization to baseline current process performance. This is invaluable in assessing if "process improvements" have a real bottom line impact and in calculating the return on process related investments. Furthermore, process performance cannot be managed without measurements and the performance of processes that are not actively managed almost invariably deteriorates to the point where the process is of questionable value.

It is not necessary to put a comprehensive metrics framework that will support a level 5 organization in place immediately. However, with a little foresight, it is possible to put a simple framework in place that collects all the core measurements necessary to manage processes at all maturity levels. Analysis and decision support can be added as necessary in the future, but if the basic framework is put in place as an organization moves to CMMI level 2, it will provide the data needed to systematically improve and manage all the organization's processes as it moves up the maturity ladder.

Unfortunately most lower maturity organizations lack the experience with metrics to put an effective and efficient framework in place at level 2. They tend to oversimplify, collecting incomplete and fragmentary data that is of no real use for decision support and process management. Or they tend to take too many measurements that bog everyone down with excessive data collecting overhead.

PS&J has worked with software metrics for years in the context of CMM, Personal Software Process, Six Sigma, and CMMI. If you want to put a cost-effective CMMI compliant metrics framework in place, we can help you with training, and consulting services.